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# THE MEDICAL JOURNAL OF AUSTRALIA

VOL. II.—11TH YEAR.

SYDNEY: SATURDAY, AUGUST 23, 1924.

No. 8.

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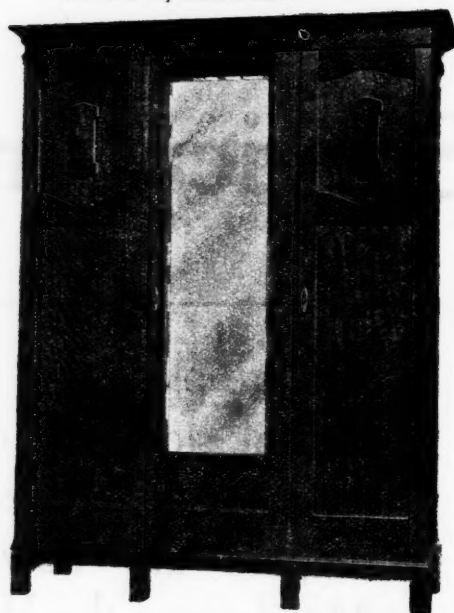
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### PERI-BRONCHIAL FIBROSIS.\*

By J. GORDON HISLOP, M.B., Ch.B. (Melb.),  
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BOTH the patients under discussion today give radiological evidence of peri-bronchial fibrosis. In one the condition is possibly of septic origin, whilst the second patient may be suffering from hilum tuberculosis.

The existence of a special type of pulmonary tuberculosis commencing at the root of the lungs and spreading in a fan-shaped manner along the bronchi has been postulated by some in recent years chiefly on X-ray evidence. According to Rivière the physical signs are always bilateral and consist chiefly in alterations to percussion, the contraction of Kronig's apical isthmus of resonance and the presence of para-sternal and para-vertebral bands of dulness when the tracheo-bronchial glands are involved. Adventitious sounds are frequently absent and may when present come to the surface at any point of the chest wall.

As always happens when any infiltration or lesion is diagnosed as tuberculous in the absence of the

tubercle bacillus, doubt is entertained as to the accuracy of the diagnosis. Many clinicians will prefer to regard these conditions as due to the effects of a non-specific septic focus in the body. There are others who will regard these conditions as being undoubtedly of tuberculous origin; others will maintain that in the first place the septic infection is the cause preparing the ground for the inroads of the tubercle bacilli. These latter persons find their circle amongst those who feel inclined to assert that the tubercle bacillus *per se* is innocuous and only commences its activity in association with the secondary—or would it then be primary—septic infection.

Hilum tuberculosis of the adult bears a marked similarity to pulmonary tuberculosis in the child. Although Ghon showed that in a very large majority of cases the primary focus is in the lung and that the peri-bronchial nodes are infected secondarily and that in children who had died of pulmonary tuberculosis, a primary focus was present in 92.4%, extensive tuberculous lesions are so frequently found in the mediastinal and bronchial glands, that it is thought possible that in some at least the glands are primarily affected, the tubercle bacilli passing from them into the lungs. It would appear then that in child life the infection may be by inhalation or by absorption through the tonsils or from the alimentary tract. The usual procedure

\* Read at a meeting of the Western Australian Branch of the British Medical Association on June 18, 1924.

is for this to run a rapid course with a more definite tendency to fibrosis and healing than in the adult, in whom the fibrosis may slowly extend out from the hilum over a very long period.

Looking back on the infection of children, it is seen that when it becomes clinically an active hilum tuberculosis, the spread of infection must take place from Gohn's area of lung infiltration or from the glands. The infiltration spreads from the root of the lungs in a fan-shaped manner along the bronchi. As the primary focus in the lung when present is situated so often near the root of the lung, this latter spread does not help in its detection nor does it allow us to decide whether it is from this focus or from the glands that the spread has occurred, unless special pathological investigation is at hand. The spreading infiltration may occur soon after the primary infection of lung or of glands. I suggest that this occurs in the tuberculous peri-bronchial infiltration of child life. On the other hand, it may be delayed for some time, the lung or gland focus remaining latent to become active later on. I suggest this as the aetiology of the hilum tuberculosis of adolescence and adult life.

Hilum tuberculosis is more widely recognized now that the value of radiological interpretation of lung shadows is appreciated. Rivière instances the case of a distinguished neurologist asking him to exclude tuberculosis in all cases of suspected neurasthenia. Without doubt many of these patients are suffering from hilum tuberculosis and recover, because of the rest which a so-called neurasthenic is ordered or prescribes for himself. Others, branded as neurasthenics, go on their way until it becomes evident that their neurasthenia has a toxic basis.

Hilum tuberculosis is almost always double-sided. In the adult in the early stages of the advance of the infiltration from the hilum and in fact up to the end of six months and in some cases twelve months there are few, if any, physical signs. In not a few physical signs are entirely absent and symptoms alone are left to raise a doubt in the physician's mind. The history is usually one of lassitude and weakness over a period of months with or without a cough. The sooner the cough develops, the better it is for the patient, for in many instances medical advice is not sought until the cough appears. Loss of weight may be so excessive as to cause the patient some alarm, but as a rule it is slow and steady and does not become obvious until the condition has been present for some months. Whilst actually working, the patient does not feel weak, but at the end of the day the reaction sets in and the weakness becomes pronounced. Many patients state that they feel as if they cannot reach their homes at the end of the day's work. After an hour or two this accentuation lessens, but the night's rest does not bring the normal feeling of fitness and the daily work is done again with the same result.

Most of the patients give a history of influenza some months previously or of a succession of colds. Associated with this latter condition is a chronic naso-pharyngeal catarrh. Night sweats are not so

common in this condition as in other forms of tuberculosis, but anorexia and slight nausea are frequently encountered. It is also remarkable what a short period of rest will do in alleviating symptoms in these patients, so much so that it is then difficult to persuade them that they are suffering from an acute illness. Any extra exertion will, however, soon prove to them that they still get tired very easily.

When confronted with such a patient, it is difficult to decide upon the question as to whether any tuberculous focus if present is active.

Frequently nothing may be heard with the stethoscope, though in the interscapular region there may occasionally be some râles which disappear on coughing, or some definite crepitations. Evidence of enlarged glands may be present because of dullness in that region with some rise in pitch and prolongation of the expiratory sound, but that does not indicate activity and not infrequently this evidence is wanting. The percussion note may be slightly diminished on one side anteriorly or posteriorly or both, but this is very often the side on which the infiltration is more advanced, and possibly less active. Again, the percussion note may be diminished on both sides, on one side more than on the other; the same observation applies. There is no doubt that although hilum tuberculosis is bilateral, it does not spread evenly, one side advancing more rapidly than the other. We begin to feel that in some cases at least the bilateral advance either occurs in childhood (a stage such as seen in the patient shown) and becomes arrested to advance later or that it is a symptomless invasion reaching a certain point when it slows down or is arrested and that symptoms occur only when a further advance is made. If seen early enough this further advance may be unilateral, but eventually becomes bilateral once more. If the side of the chest which is relatively more dull, is measured, its contour may be found to be less than that of the more nearly normal side, showing that some fibrosis has occurred and radiologically it will be seen that the heart has been drawn over that side. On watching this under radiological control, it will be seen that the advance of infiltration is most usually on the uncontracted side or is it that it is more easily seen there? Whether the activity on this dull side is arrested or the rate of activity is less is difficult to say, but eventually both sides become obviously clinically active. This is seen in patients with a clinically unilateral lesion who have been referred for the possibility of induction of artificial pneumothorax and in whom X-rays reveal infiltration in the supposedly clear lung. After some weeks or months this infiltration reaches the periphery of the lung and adventitious sounds can be heard.

We can thus depend but little upon clinical examination in some cases in the early stages. The medical practitioner may feel that the history of the case makes him suspicious of the presence of active tuberculosis and the skiagram indicates to him that there is some infiltration of the lung substance, suspected of being tuberculous in origin. Still this is no proof of activity. It is in such cases that



stereoscopic films are of much value for it would seem that lines of infiltration running along the bronchi and ending in furry masses about the size of a week-old bunch of growing grapes are suggestive of activity. It is also of great value to know how far the infiltration has gone towards the periphery.

In the absence of absolute proof of activity, there often arises the possibility of the symptoms being caused by nasal or naso-pharyngeal sepsis. Very often indeed the sputum, when there is any, is characteristic of naso-pharyngeal catarrh and does not contain demonstrable tubercle bacilli. The history of successive colds and the initial attack of influenza make the presence of nasal sepsis more evident. If we accept this history without further inquiry, the frequency of nasal sepsis being the cause of these symptoms would seem to assert itself. However, if we carefully trace the history and symptoms of these attacks of influenza and of these colds, we are not quite so certain of the nasal sepsis being the cause, inasmuch as they would then appear to be more in the nature of acute exacerbations of a slowly advancing tuberculous lesion. Close inquiry into these so-called influenzas makes us rather doubtful of "influenza" without joint and muscular pains. The usual history is of a coryza with an accentuation of the malaise and weakness accompanied by pyrexia for a day or two after which the patient improves but does not regain his former virility. The colds have much the same classification, except that the cough becomes troublesome, sputum if any is increased, catarrh is more pronounced, but after some days all the symptoms settle down to their usual severity, though one symptom may remain a little accentuated compared to what it was prior to the cold. It will be quite easy to maintain that this is an acute exacerbation of nasal sepsis and that if a tuberculous lesion be present, the concomitant lowering of resistance will allow that lesion to advance or to maintain that this is an acute exacerbation of a tuberculous lesion and the lowering of resistance will allow an increase in the nasal symptoms.

It would seem then that the line of action becomes more clear by taking a broad outlook upon this and doing a little giving and some taking. If the nasal sepsis be at the root of the trouble, then by its constant exacerbation it is lowering the general resistance so much that if the infiltration of the lung substance be inactive, there is no great risk of the activity commencing at any moment. Then treat the patient as if he were suffering from early pulmonary tuberculosis complicated by nasal sepsis. If the converse be true, then the same treatment will hold.

The nasal passages should be examined and if any definite septic focus be found, it should be suitably treated at the outset, but if no definite focus is found, the patient should be given an alkaline nasal douche and no harm and often an appreciable amount of good can be done by the administration of a polyvalent coryza vaccine or better still an autogenous vaccine may be made from naso-pharyngeal secretion.

It is not profitable to wait for three months to see if the physical signs become audible or the radiological signs become increased or the sputum appear or contain tubercle bacilli. It may be of academic interest to learn that our suspicions are correct and that the case is indubitably one of tuberculosis; treatment should be undertaken at once and rest is easily ordered on the excuse of a temperature chart. If with rest the patient improves and eventually regains physical fitness, we cannot say whether the patient was suffering from slowly advancing tuberculosis, associated with nasal sepsis or from nasal sepsis alone. But what does it matter? When we are suspicious of a patient being tuberculous in the absence of sputum, it is our duty to prevent the occurrence of sputum for then it is too late to feel certain of producing arrest of the disease.

There seems no doubt that hilum tuberculosis is the form of pulmonary tuberculosis which provides those cases which are beyond all hope of treatment when the patients first come under notice; this is the type in which there is a long history of symptoms *minus* cough and sputum. But when the cough and sputum do occur and medical advice is sought, the infiltration in this type is so extensive throughout both lungs as to make prognosis hopeless with any of our known methods of treatment. On the other hand early hilum tuberculosis seems to react extraordinarily well to a *régime* of rest and later of graduated exercises. It is for this reason that treatment should be undertaken at once. Thus it may be said that when a condition is suspected of being one of active hilum tuberculosis, it should be treated as such, until it is definitely proved to the contrary that some force other than that of tuberculosis is causing the symptoms of which the patient complains.

Reverting once more to the child, we see then that there is one important point which must soon be determined. What is a normal radiological hilum shadow? This can only be determined by examining with X-rays, preferably stereoscopically, one hundred or more apparently normal children selected from the out-patient department of a hospital. The interpretation of shadows radiating out along the bronchi is a matter requiring experience. They may be due to peri-bronchial thickening caused by the formation of fibrous tissue or may merely represent the shadows cast by the normal bronchial wall and vessels which in some are more apparent than others. This is clearly a point of great importance and the physiological variation must always be remembered. Secondly, we must bear in mind the liability of children to develop tuberculosis after septic invasion of the lymphatic system anywhere in the body. G. F. Still is very emphatic on this point. The special liability of children to tuberculous affection of lymphatic glands has a practical bearing upon the prophylaxis of tuberculosis at this age. A swollen lymphatic gland, whatever be the cause of the swelling, seems to furnish a nidus in which tubercle bacilli thrive. An unhealthy condition of the throat with enlarged tonsils and adenoid hypertrophy is therefore a danger

to the child with tuberculous tendencies, for the resulting enlargement of glands at the angle of the jaw makes them specially liable to tuberculous invasion. Carious teeth should be removed, for though the tubercle bacillus may not enter through this unhealthy area, the resulting glandular enlargement predisposes to infection by that bacillus.

The swollen condition of the mediastinal glands which occurs in some cases of whooping cough and in the convalescent period of measles, may in the same way account for the fact that tuberculosis is a common sequela to both these diseases. The primary tuberculous focus has in some instances been suggested as having been in a discharging middle ear.

Along with these aerial means on infection there is always present the very real danger of infection from milk. One out of every four children under five years of age dying from tuberculosis in Australia were infected with the bovine bacillus. How many of these cases are bovine in origin is hard to conjecture. Only research and the injection of specimens from observed cases into guinea pigs can answer this.

Enough has been said to make it obvious that in children at least the presence of a septic focus, wherever it may be, exposes a child to the risk of infection by the tubercle bacillus and when a child is suspected of being tuberculous a thorough survey of all possible areas of sepsis should be made. When sepsis is found it should be suitably treated.

#### SEVEN YEARS OF NATIONAL HEALTH INSURANCE IN ENGLAND:<sup>1</sup>

##### A RETROSPECT:

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(Continued from page 171.)

#### 3. What proportion of his time does the average doctor devote to insurance work?

This, of course, depends on the proportion the insurance work bears to the whole work of any doctor. The best answer to this question is an extract from the case presented last year to the Board of Arbitration appointed to decide what the proper capitation fee should be in the new circumstances—revision of regulations, high prices and increased practice expenses. We suggested that the work arising out of a list of 1,000 insured persons would give the doctor about fourteen items of work in a day, if it be assumed that 300 days only will be worked. If Sundays and holidays be included and work spread over all the 365 days, the number will of course be less than fourteen. The visits in this number of fourteen would be rather less than four, and there would be about nine or ten attendances at the surgery. To this must be

added the time necessary for making notes and records and for professional correspondence. A list of 1,000 *potential patients* is, of course, a very different thing from a list of 1,000 *patients*. Yet ignorant or malicious people in this country, and also I find in yours, often make a great play with "doctors with 3,000 patients," etc., seeking to make the public believe that a doctor with a list of 3,000 (and there are not many of them, for, as I said before, the average list is less than 1,000) would be absolutely overwhelmed with work. As a matter of fact, a doctor with 3,000 persons on his list would have an average of 3.8 attendances per insured person in a year, that is, a total of 11,400 attendances in a year. If we leave out the Sundays, he would have about thirty-seven attendances a day, of which ten would be visits at the homes of his patients, and twenty-seven attendances at the surgery. For this work he would have £1,650 a year. As he would almost certainly have private work in addition, he would be well able to employ assistance.

#### 4. What is the average fee per call received by the doctor, and does mileage enter into this?

The payment per call should vary with the nature of the call. The majority of the calls are attendance at the surgery, and a number of these are simply attendance for the purpose of getting a certificate; there may be special or night visits (the doctor being of course obliged to go to these just as in private practice); dislocations, fractures, minor operations and attendance at miscarriages on insured women are all included. There are no figures to show what proportion these special items bear to the ordinary items except those of the payment per attendance areas. The following are the Manchester figures for 1915:

|   |           |
|---|-----------|
| Attendances at surgery .. .. .  | 1,041,148 |
| Visits .. .. .  | 198,726   |
| Special visits (i.e., a visit paid in response to a call received after the doctor has gone out on his rounds) .. | 5,075     |
| Night visits (8 p.m. to 9 a.m.) .. ..   | 488       |
| Operations (minor surgery) .. .. .  | 230       |
| Fractures .. .. .   | 116       |
| Dislocations .. .. .  | 17        |

(It must be remembered that many cases included in the last three items go to the hospitals for treatment.)

The average attendances being 3.8 per insured person (*not per patient*), and the capitation fee being now 11s., it will be seen that the average fee per item is about 2s. 10d., and that by far the greatest number of items are attendances at the surgery. The capitation fee includes any visiting within two miles of the doctor's residence or surgery. Any attendance beyond this radius is paid for out of a special Central Mileage Fund, which was £44,000 for the whole of the country (England, Scotland and Wales) from 1913 to 1918 (additions in the way of war bonus being made for 1919-1920), but was raised to £300,000 for England and Wales, with £65,000 for Scotland in 1920. This great increase was brought about by the persistent fighting by the British Medical Association instigated by the country insurance practitioners, who realized that they were at a great disadvantage as compared with the town man. Their lists were small, and the early

<sup>1</sup> This article has been reproduced from *The Journal of the American Medical Association* (May 7, 14 and 21, 1921) with the kind permission and courtesy of the editor of that journal. The author, Dr. Alfred Cox, has suggested that the articles be reprinted and has contributed a new chapter which will be published as an addendum.

Central Mileage Fund was distributed only among the doctors who practised in specially difficult or very sparsely populated areas. The rural doctors insisted that the time which they spent on paying their visits to patients who resided over the normal two-mile limit should be paid for as well as the actual expenses incurred in travelling.

Their claim was admitted by the Government, and the method of satisfying it was submitted to a Government Committee on which representative rural doctors nominated by the British Medical Association sat, with the result I have mentioned. The distribution of the money is dealt with by the Central Committee, a permanent body dealing with the distribution of the whole Central Fund to the Insurance Committees, as well as the Central Mileage Fund. This Committee settles annually what proportion of the total shall be allotted to each insurance area, and the amounts depend on the information provided by the Panel and Insurance Committees, and the experience of the past year. The money allotted to each area is distributed locally by the Insurance Committee to the individual doctors who have earned it, on a scheme based on the number of patients on the lists of the local doctors, drawn up by the Panel and Insurance Committees in consultation, and approved centrally by the Ministry. It is too early yet to say whether the amount now allotted for mileage will be deemed sufficient by the country doctors, but it is obviously a great advance on previous remuneration, and the existence and composition of the Distribution Committee is a guarantee that the claims of the country doctor will be dealt with by men who thoroughly understand the position.

5. *What effect has the system had on the professional morale of doctors?*

This is a most difficult question to answer, and leaves room for very different opinions. I will give you my opinion in the firm belief that it represents that of a very large number of doctors who have experience of the system.

I do not think the time has arrived for a very definite answer. Violent changes in the habits and customs of a profession, particularly when accompanied by bitter political feeling, are likely to cause violent reactions. I do not think we have settled down yet. There are still persons of some influence, and some newspapers in this country, who seem to think the Insurance Act fair game for attack, and a sure draw when other political material is scanty. I do not believe you will find one serious politician or one member of the medical profession who studies the political horizon who does not say that the Insurance system has come to stay—subject, of course, to the evolutionary process through which all political and economic systems have to go. A section of the Labour Party wants a whole-time salaried medical service, but to my mind this is not at present a question of practical politics. It would cost a great deal of money and we have not the money. It would mean a great increase in bureaucracy, and the country is beginning to hate bureaucracy like poison. And I do not believe the

working classes would stand a whole-time government medical service.

During the two years' campaign preceding the operation of the Act and the seven years which have since elapsed, the medical profession came collectively into the public eye a good deal more than it had ever been. Its traditions and internal economy were exposed to the public gaze in a manner which seemed almost indecent. The profession, which people had vaguely thought lived mainly on its reputation as a "noble profession" and the gratitude of the people who could not pay, was discovered to be as amenable to ordinary economic laws as anybody else. Its income and demands for remuneration were discussed in every newspaper and at political meetings all over the country. When we got over that we found that we were now to be in close relation, on the method of conducting our practices and on money matters, centrally with a Government Department and locally with the Insurance Committees. Besides that we had the Approved Societies watching us jealously, for on the vigilance and honesty of the doctors depended the financial success or bankruptcy of their part of the business. Every doctor's certificate was virtually a cheque on their sickness benefit funds, and they were irritated to feel that they depended so much on what we might or might not do, while they had no control over us, or only a very indirect control, exercised through the Insurance Committees. Gone were the days of patronage when a few members of each Society could decide what doctor would attend (or at any rate draw the money for) all their members. Every doctor now had a right to be on the list and the individual selected his own doctor from that list. The doctor could no longer be got rid of at a few months' notice. No wonder that for the first two or three years the position was very uncomfortable.

Incidentally, I may say that the valuations of the funds of the Approved Societies, now being completed by the Government, show that that financially the system is a great success. Most of the Approved Societies have handsome balances which will be devoted to extra benefits, among which nursing, dental treatment and hospital treatment seem to be the favourites in the discussion now going on as to how the money shall be spent. The people in this country who were telling us a year or so ago that the Act was bankrupt are "lying low and saying nuffin" at present. They must be thinking quite hard.

The new restrictions on the doctor caused by the certification rules (much stricter than those of the old Friendly Societies) and the necessary (sometimes, as we all thought, the unnecessary) rules and regulations, made many of the doctors very restive and there was a good deal of friction and bad feeling which had its effect on the morale of the profession and sometimes a very bad effect. I am amazed that things have settled down as well as they have in nearly every area. The present good relations between the Insurance Committees and the doctors which exist in nearly every area are a wonderful testimony to the British habit of "worrying



through," and to the wisdom and tact of those individuals on each side who gradually evolved order and good feeling out of chaos and bad temper.

Undoubtedly the system has had the effect of making doctors talk more *in public* about money, and this has had a bad effect on their status in the public eye, though I think only a temporary one. The methods of payment were at first very defective. Nobody had ever had to work a system which called for the payment of 13,000 doctors in 200 areas of a sum based on counting the heads of some 14,000,000 people, constantly moving about. It was not made clear at first that a doctor could not expect to get a full year's payment for every person who got on his list—it might be only for a few weeks—and many doctors were puzzled and wroth when they could not square their receipts with the number of names on their lists. The lists were most defective. Insured persons could not be traced. The administrative work of some Insurance Committees was much more efficient than others, and the result was that for six years, until experience had shown the defects of the old system and pointed the way to a better, we were constantly complaining, in public, that we did not get the money to which we were entitled. We got the reputation of always thinking and talking about money, and there is no doubt that the necessity of doing this (and it *was* necessary, for we could not have got an improved system, as we have done, without it) did not improve our public status, and I do not think it had a wholesome effect on that large section of the profession which had to indulge in it.

But this factor is a temporary one. The money question is not as acute as it was, and if I am right in thinking that it will not occupy such a prominent position in future I am inclined to think that the influence of the system on the morale of the profession will be on the whole to the good, for:

1. A secure income has a beneficial effect on most people. The Insurance system gives doctors the certainty of a quarterly cheque, without eliminating enterprise and competition. Patients can change their doctor, and there is also a large field left for private practice.

2. The system has compelled doctors to work together more. In Panel Committees and at meetings of insurance practitioners they have to discuss administrative affairs; they have, under their agreements, to deputize for one another in emergencies; all those who work the system feel they have interests (and grievances) in common, and I am convinced that there is more solidarity in that section of the profession than there ever was before in any considerable section of the profession. Against this must be offset the class division which was set up in some areas between the doctors who did and those who did not accept service. But this was never pronounced except in a few areas, and is fast disappearing in most, if not all. Moreover, doctors who are able to see further politically than the end of their nose are convinced that there will be further developments of medical service under the aegis of the Government, in which every mem-

ber of the profession will be involved—consultants as well as general practitioners. Therefore, I believe that within measureable distance the improved solidarity of the profession, already noticeable among those working the insurance system, will invade all other sections.

I hope that my American readers will remember what some of the critics of the system have forgotten: that the doctor who does National Insurance work is a general practitioner first, with all of the instincts and all of the interests of a general practitioner. He happens to be doing this kind of work; but to nine men out of ten it is the lesser part of their practice.

#### 6. What effect has the National Health Insurance system had on scientific research?

It cannot be said that it has had any direct effect, but it must be put down to the credit of our Insurance Act that it was the means of setting up the first real State endowment of medical research. Section 16 (2) (b) of the Act of 1911 provided that 1d. for each insured person should be retained by the Commissioners for purposes of research. In 1914 a sum of about £55,000 was available for this purpose. The Insurance Commissioners of England, Scotland, Wales and Ireland jointly set up a Medical Research Committee, which included Lord Moulton, F.R.S.; Dr. Christopher Addison (now Minister of Health); Mr. Waldorf Astor, M.P. (now Lord Astor); Sir T. Clifford Allbutt, M.D., F.R.S., Regius Professor of Physics, University of Cambridge, and President of the British Medical Association; Mr. C. J. Bond, F.R.C.S., of Leicester; Dr. William Bulloch, Professor of Bacteriology, the University of London; Dr. Matthew Hay, Professor of Public Health, Aberdeen University; Professor F. G. Hopkins, Reader in Chemical Physiology, University of Cambridge; and Sir W. B. Leishman, F.R.S., Professor of Pathology, Royal Army Medical College. With this Committee was associated an Advisory Council for Research, containing the names of many men eminent in the medical world. On the strength of this money and out of this beginning has arisen the Medical Research Council, which now has no direct connection with the National Insurance system or with the Ministry of Health, but is under the Privy Council and is regarded as the body for conducting all kinds of medical research on behalf of the Government as a whole, or any department of it. The work of this body during the war has been recognized as being brilliantly successful.

#### 7. What effect has it had on the public health?

I do not know of any statistical evidence bearing on this point: probably it is too early yet to expect any. But I am as certain as I can be of anything that the existence of a plan of medical attendance which covers 14,000,000 workers, which makes it pay the doctor not to have the patient ill at all, and pays him to prevent a slight ailment developing into a greater, is bound to be reflected sooner or later in the death rate and the incidence of sickness. It will not tell heavily for some time yet, for many of the older doctors have not yet got



used to the new system sufficiently to change their outlook, and the war has prevented a sufficient influx if the younger men to make any material difference yet. We as a profession have always urged that patients should be encouraged to go early to the doctor so that their ailments may be diagnosed early. We in Britain have got our wish as regards a considerable section of our population. Our professional instincts and training would alone lead to advantage being taken of this opportunity; and when professional instinct and self-interest coincide, I have no doubt as to the result.

One of the obligations put on the doctor by his agreement is that he shall keep such records of the diseases of his patients as are required by the Ministry of Health. When the Act first came into operation, a form of record was introduced which showed the number of attendances given to the patient and the nature of his disease. But in order that professional secrecy might not be violated, when the doctor returned his records, as he did at the end of the year, he separated the two parts of the record so that the part which gave the nature of the disease did not give the name of the patient, and one part went to the Insurance Committee and the other to the Ministry of Health. The record was therefore useless for clinical purposes, as it was lost to the doctor at the end of the year. It was, in fact, quickly discovered to be of very little use for any purpose, so that when it was dropped during the war in an attempt to relieve the doctor of as much work as possible, it disappeared "unwept, unhonoured and unused." The Ministry did not attempt to revive it, but last year appointed a very strong Committee, consisting of statisticians, administrative experts, and doctors experienced in National Health work, to try to devise a new form of record which should be useful clinically, administratively and statistically with a special regard for its clinical value. The Chairman of the Committee was Sir Humphry Rolleston, F.R.C.P., whom many of you in the States know. A new record was produced and came into use, January 1, 1921. It is designed to serve as a continuous record of the health of the patient, and it will remain in the hands of the doctor unless the patient removes (in which case it goes to the new doctor) or dies (in which case it goes to the headquarters of the Ministry). The doctor is under an obligation to keep a record of the attendances and visits given, and of any first and final certificates given. He must put down any clinical notes and diagnoses that he thinks will be of service either to himself or to any succeeding doctor into whose hands the record may come. This record is new and is being subjected to pretty severe criticism at the hands of some of the doctors who will have to keep it, and of certain newspapers which have attacked it. The Conference of representatives of Panel Committees, which meets yearly or oftener under the auspices of the British Medical Association and is directly elected by the Panel Committees of the country, resolved last October to pass no opinion, either favourable or unfavourable, until the record had had a trial. During that trial we shall all be criticizing the new

form and possibly we may find that some of the work entailed by it is useless—in which case I have little doubt the form will be modified. But we shall have for insured persons what we have never had before for any section of the public and what the profession has often wished for, namely, a continuous record of the incidence of sickness for each insured person so far as the doctor, at his discretion, thinks a clinical record necessary. This may prove invaluable. On the use to the doctor and the patient of a record of diagnoses and clinical notes there can be no serious division of opinion in the profession. To know the previous medical record of the patient who comes to him as a stranger is a great asset to the doctor and also to the patient, whose memory and intelligence cannot be relied upon to give the doctor that information as to the past which is often invaluable.

I said that some newspapers had attacked this new record; and though I do not want to trouble our colleagues in the States with our political affairs, this incident is so important that I must dwell on it, for it illustrates one of the greatest disadvantages that a National Health Insurance system has brought to the British medical profession and will bring to the profession in any other country where it is tried. *It renders the profession much more liable to be used as a pawn in a political game.* All through the Insurance Act fight the enemies of the author of the scheme—Mr. Lloyd George (and they were much more numerous then than now)—used the medical profession as much as they could to defeat him. It was not clearly seen then that this kind of thing was likely to be permanent. Recently a certain section of our press which wants to get rid of Mr. Lloyd George came to the conclusion that one of the weakest spots in his armour was the Ministry of Health. It is a new Ministry, it has a large number of officials, some of its work entails the issue of numbers of regulations, many of its schemes would need much public money. A section of the press seized hold of the growing public horror of bureaucracy and its desire for public economy, and commenced a series of venomous attacks on the Minister of Health and his officials. It ranged through an attack on (1) the number of charwomen employed at the Ministry; (2) a number of new medical officers appointed (these appointments had been hung up since 1914); (3) a miscellaneous bill the Minister brought in dealing with a number of things, some small, some important; but finally fastened on (4) the new record. This was accused of being a gross violation of the secrecy which should prevail between doctor and patient, and first in one paper and then in another, this section of the press did its best to rouse the public against the Minister of Health and thus get at the Prime Minister. Up to the moment the press agitation started there had not been a murmur from the profession, but it was not long before individual doctors fell into the trap and began writing to the papers or giving interviews in which they supported the agitation. The profession as a whole refused to be moved, and after a few weeks' agitation the matter, so far as its

political usefulness is concerned, is as dead as a doornail. But it was sufficient to show the "yellow press," if it needed any showing, that the Insurance Act is still a potent political weapon and that the medical profession may at times prove quite useful in a political stunt. This is a new development for us, but it is a permanent factor to be reckoned with. The more the profession comes into contact with the State, especially when it is being paid by the State, the more likely it is to be used for political purposes and the more likely it is to lose caste with the public. I say deliberately that whenever the profession is dragged into a public controversy in which party politics is involved, it loses professional prestige.

8. *What is the opinion of the profession of National Health Insurance after its experience of it? If the matter were put to a vote would the majority of the profession in Great Britain be in favour of continuing or going back to the conditions which prevailed before the adoption of the system?*

Opinions about the system in the medical profession are very mixed. Many, probably the majority, of the doctors who are not working it and have little more than theoretical knowledge of any form of contract practice will tell you it is bad. Quite a considerable number of doctors think that no form of contract medical practice can be good. They believe that the mere fact of the doctor being paid the same amount whether he sees his potential patients frequently or seldom, or not at all, has a bad effect on his work. I do not think so. If you grant that the terms of the contract, both financial and other, are reasonable, I see no reason why a doctor should not do quite as good work for money earned by contract as for money earned in bills. Moreover, I know many doctors in this country who do *all* their work by contract and do it well; most of the doctors in the colliery districts, for example. They are as good all round practitioners, taking them in the average, as you could wish to see. You will find a small number of doctors who have had experience of the old club practice who will tell you that they would rather have the old system, because it gave them more liberty. They had no Government control, no supervision, no red tape. My own opinion is that not one of these would go back to the old system if the choice became a matter of practical politics which, thank heaven, it never can. Whatever faults there may be in the present system, when I compare it with the old club system at 2s. 6d. to 3s. 6d. per head per year; with doctors tumbling over one another in a horrible dutch auction to get clubs even at that price so as to keep competitors out; with the bribery and corruption that went on in connection with the election of doctors to these clubs; with the fact that the minority in the clubs who didn't like the doctor chosen by the majority had no choice unless they paid private fees—when I compare all this with the present system—every doctor who chooses taking a part and getting those patients who care to select him; the remuneration nearly three times what it used to be before the Act came in (or in pre-war money at any rate double); and

the real share that the doctors through their Panel Committee have collectively in the administration of the service—I have no hesitation about my verdict. I can confidently say that not one doctor in 1,000 who is doing National Health work would willingly go back to the old system, if the choice were put to him as a practical proposition to which he must give an answer.

That is not to say that the majority of doctors who are working the system are entirely satisfied with it. Satisfaction would be pathologic in connection with such a gigantic experiment as this. You could not change the habits and conditions of practice of 13,000 doctors by an Act of Parliament introduced in circumstances calculated to produce the greatest possible prejudice against the new system, and expect satisfaction. But inasmuch as doctors have a considerable and increasing share in working the administration of the system and in shaping its future, my opinion is that it is probably as good a form of contract medical practice under State control as you could get in the time, never forgetting that we have had a big war which has interfered with normal developments.

I am ending as I began. If you can ensure that all your population can get the medical attendance they need without charity and without an insurance system, my advice would be: Don't encourage a compulsory State medical insurance scheme. If, on the other hand, you have any considerable section of your population that cannot get the medical attendance they need without resort to medical charity (either the organized kind generally known as medical charity or the unorganized kind known as not paying the doctor), then it seems to me the State ought to organize some provision for them and the medical profession should help. I do not believe it is the duty of the medical profession alone to organize and run such a system. Doctors are trained to practise medicine, not to run big insurance schemes, and their time could be better used in their own work than in doing, less well, work for which actuaries, accountants and business men are needed.

Nor would I advise that the organization should be done by insurance companies or other private corporations. Doctors can get, as we here know by experience, a considerable share in the administration of a State scheme, and can exercise a very great influence on its line of development. But they would certainly not get such a position in any scheme run for a profit by an insurance company or a combination of such. Their scheme would be run by their directors, business men who would never dream of leaving the medical side to be run by medical men who were employed under the scheme. I believe that the doctor can exact his proper share in the administration of a big scheme of this kind far more easily from the State than he could from any system of private enterprise.

#### OBJECTIONS AND DESIRABLE MODIFICATIONS.

And now for your Editor's last question:

*What are the principal objections made to the plan as at present administered and what modifications in the plan should be adopted?*

We must leave aside as impracticable those objections which are raised by those who object altogether on *a priori* grounds to contract work, or by those who have no objection to State money but want it without any State control.

I suppose that if responsible and experienced doctors were given a free hand to alter our system here, they would wish chiefly to make it more comprehensive, that is to say, to provide the insured persons with a really complete medical and auxiliary service—doctors, specialists, nurses, institutional treatment, etc.—to have a service which would be a credit to all concerned.

They would wish to increase the payment to the doctor so as to make it possible for him to make a good income out of a more limited number of potential patients. But they would realize that this would mean more restrictions on the individual doctor. The State could not pay a larger fee for the express purpose of getting a better service without making sure that it got value for its money. This would entail more inspection, and I am not sure that the last state of the doctor (and probably of the patient) would not be worse than the first.

They—the doctors who have been through it all—would desire to have the local administration of the service placed in the hands of a better body than the present Insurance Committees. The Insurance Committee has no real link with the local authority which controls all the other health agencies in the town or county. For example, the Town Council of a County Borough controls all the sanitation of the town, runs the infectious diseases hospital, controls maternity and child welfare schemes, has a special responsibility for the health of school children, but it has no real link with the Insurance Committee, which controls the domiciliary medical services for these men and women who are insured. One of the pressing problems of our Ministry of Health is how to bring into being one Local Health Authority which shall combine all the health functions of all the existing authorities. Old traditions and vested interests make this one of the toughest jobs any Government ever tackled.

Another thing the medical profession wants is to have a still greater share in the administration of medical benefit. As I have previously indicated, this is gradually being granted; but we should long ago have had what we now have, and much more, had the author of the scheme consulted the representatives of the profession at an earlier stage of the proceedings than he did. One would think that it would be the first desire of any government department to gain the cooperation of those who will be mainly responsible for carrying out any such scheme as we are now considering. But as a matter of fact, government departments learn this lesson very slowly. If there should be any likelihood in any of your States of the establishment of a State system of health insurance, I would urge our American colleagues to insist on being consulted *before the scheme gets to the stage of crystallization into a bill*, and to make themselves thoroughly unpleasant to any department, party or person who tries to deny what should be an elementary right.

We are of the opinion that some of the restrictions placed on those who are working the system are unnecessary, and we feel that only constant vigilance on the part of an organized profession can ward off much more of this kind of thing. For example, a recent change in the doctor's agreement lays it down that if he is going to be away for more than a week he must give notice to the Insurance Committee of the arrangements he has made for getting his work done. Also, the Insurance Committee has power to make inquiries into the accommodation the doctor provides in his waiting room and surgery. These restrictions have no doubt been imposed on all the doctors because a few have been careless or negligent, or have made insufficient provision for their waiting patients. The fact is, of course, that in any large system of this kind the average man who does his duty will have to suffer because a minority do not do the work for which they are paid. But the situation is not so bad as it looks. There are hundreds of laws passed for the restraint of wrongdoers of which the average man remains in blissful ignorance, and so it is with some of the restrictions and regulations of our insurance system. For all practical purposes to the great majority of doctors they don't exist.

Nevertheless, there is nothing more certain than that, unless they are watched and resisted, administrators tend to multiply rules and red tape, not out of malice aforethought but because it is a way they have. One of the chief lessons of the Insurance Acts have taught the profession in this country is that a strong and vigilant fighting organization is as essential to the medical profession as to every other calling or trade. As a consequence of our experience of the Insurance Act and its administrators, the British Medical Association is stronger, more representative and more capable of defending the interests of its members than ever it was before.

#### CONCLUSION.

I am conscious that in what I have said I may have missed some of the questions American doctors would like to ask, simply because I do not know their special difficulties or how American conditions would modify any health insurance scheme that might be set up in one of your States. I shall be very glad to answer any questions which these remarks may elicit, and I ask your readers to accept what I have said as the honest attempt of a man with special experience to say what he thinks is the opinion of the average member of the medical profession in England about our National Health system.

#### REMOVAL OF BOTH OVARIES AND PERSISTENCE OF MENSTRUATION.

By A. NORMAN McARTHUR, M.B., B.S. (Melbourne),  
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In my earlier teaching the ovary was placed upon a pedestal far above its correct use. It was considered to have been a most dangerous thing to



remove both ovaries. It used to be quoted frequently that removal of both ovaries would produce a complete mental breakdown. There are quite a number of cases in which I have removed both ovaries and tubes, especially in that class of woman who has had gonorrhœa and whose tubes and ovaries have been rendered derelict. I have kept the history of all my patients and habitually call them in. In only one patient among a great number have I found mental breakdown and this patient got an acute mania after the operation, but on investigating her history I found that she had been in Kew Asylum two years previously. I have noticed that in some women who have had both ovaries removed, there has been very little alteration in temperament. A good number of them seem to put on more flesh. There is a point, however, that is absolutely contradictory to my earlier teaching and it is this: If a woman has habitually been in the habit of sexual intercourse and she loses both her ovaries, she will in the greater majority of instances retain the sexual feeling as potently as ever even to the extent of a complete orgasm. Incidentally it may be interesting to recall that pre-war operations for removal of derelict tubes and ovaries, the result of gonorrhœa, were much more frequent than during the war and since. The possible cause of this state of affairs was perhaps that during the war the greater number of men were under military discipline and a great number of those suffering from venereal diseases were incarcerated in the venereal disease hospitals until cured. After the war men came out of the army with a better knowledge of care for themselves and moreover venereal disease hospitals still existed and later the venereal disease clinics have helped in knowledge and care. Be that as it may, there is in my work at any rate a remarkable diminution in chronic gonorrhœal pelvic infection.

I have not found the absence of menstruation in any way worrying to a woman who has lost her ovaries. The vaso-motor disturbance of flushings is the only disquieting symptom, but when assurance is given to the patient that it means nothing and will disappear in a year or eighteen months, the symptom and discomfort disappear and are forgotten. But there are some cases in which the patients are supposed to have had both ovaries removed and in whom menstruation has persisted. Herewith I quote them.

Some years ago I used to clean out the pelvis for double tubo-ovarian abscesses, removing both tubes and ovaries but leaving the uterus. That was my method then for dealing with this condition of derelict tubes and ovaries. Now if I am faced with such a situation I prefer to remove tubes, ovaries and uterus. There are certainly not many cases in which such drastic surgical methods should be adopted, but such conditions do present themselves to the surgeon and the only possible method of dealing with such a condition is a complete enucleation of the derelict parts. In my experience after having treated patients by this older method there were three whose ovaries and tubes had been removed and in whom menstruation occurred regularly for years. On leaving the operating theatre I was quite

satisfied that a clean sweep had been made, but weeks afterwards in these three cases menstruation was re-established. With a shrug of the shoulders I have said to myself: "I suppose I must have left some fragment of ovary." Only recently I have had this extraordinary experience brought before me again in a woman whom I had operated on for two big ovarian cysts. They were dug out from the pelvis where they were grossly adherent, but as they were shelled out they were easily recognized as true ovarian cysts, the infundibular-pelvic fold, the tubes, the round ligaments all could be defined. These cysts were cleanly and completely removed. The patient has been menstruating regularly ever since.

Another case came under my notice recently. A young woman was operated on by a homœopathic surgeon who had dealt in some conservative way with both ovaries through the posterior fornix of the vagina. Her dysmenorrhœa became infinitely worse. She then sought relief at the Women's Hospital and Dr. R. H. Morrison removed one ovary. She told me, though it was not in the hospital history, that Dr. Morrison could not find the other ovary. Her dysmenorrhœa persisted and she had become desperate. She sought relief at Saint Vincent's Hospital and I searched everywhere possible for a trace of an ovary, but could find no sign and according to previous arrangements with the patient I removed the uterus. I have never had the temerity previously to ask the question whether any gynæcological surgeon has had similar experience to mine. Is it possible for other endocrines, particularly the pituitary, the thyroid and perhaps the adrenals in freak cases to carry on and imitate the menses independently of ovarian secretions. I do not believe that supplementary ovarian tissue can be found elsewhere than in the normal site. In discussing this subject there is no need for advance comment on the surgical procedure of removal of both ovaries. I have already stated that in the cases in which I have acted in this way, it was the only possible surgical procedure. I am really desirous of learning whether any other surgeons have had the same experiences that I have had.

### Reports of Cases.

#### SUPRA-PITUITARY TUMOUR WITH FRÖHLICH'S SYNDROME.

By H. H. NOWLAND, M.B., M.Ch. (Sydney),  
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AND  
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In a recent number of *Brain* Dr. Charles Armstrong described three cases of supra-pituitary tumour associated with Fröhllich's syndrome. These cases occurred in the clinic of Gordon Holmes and Buzzard. The most interesting feature in these patients was undoubtedly the fact that, while evidence was forthcoming of the presence of Fröhllich's syndrome, the pituitary body proper seemed



to be normal. There has recently come under our notice a patient who manifested Fröhlich's syndrome and yet had a normal pituitary body. This patient's history presented features very like those of Dr. Armstrong's patient; even the photographs of the supra-pituitary tumours were similar. We deem it our duty to report the case rather fully, because it raises the following question: Does the presence of the syndrome in association with an intact pituitary suggest that we are mistaken in assuming certain properties in the posterior lobe or *pars intermedia*? Or is it possible that the secretion, if any, cannot get through the region of the tumour into the third ventricle under conditions favourable to absorption, if we suppose that this is the only path of absorption? The tumour apparently blocks the outlet of the infundibulum to the third ventricle and in this case also the further passage of the cerebro-spinal fluid down the aqueduct of Sylvius. Or again are certain infundibular areas, obviously destroyed in tumours of this region, of importance in maintaining physiological equilibrium?

#### Clinical History.

A.C., aged fifty-six years, had been married for thirty-two years and had five children. He had been a railway employee since eighteen years of age and had risen to be a station master. There was no history of alcohol, of epilepsy or of insanity in the family. He worked till four months ago, but had been out of sorts for a year with headaches, constipation and a feeling of drowsiness when working late. Later on he looked yellow and blowing of the nose produced bleeding. He was treated at the Royal Prince Alfred Hospital for myxœdema. The headaches became worse and his family noticed that he dragged his feet when walking. Finally he went to bed and a few days later started vomiting continuously. He fell apparently in a sort of fit. His eyes were turned, his mouth was open, he looked pale and remained unconscious, cold and sweating. He recovered next day, but a week afterwards while at table fell forwards unconscious. He recovered in a few hours and was admitted to the Royal Prince Alfred Hospital. After examination at this institution the patient's condition was diagnosed as general paralysis of the insane and he was recommended to a mental hospital. While he was at the Royal Prince Alfred Hospital a "+++" reaction to the Bordet-Wassermann test was obtained both in the blood and in the cerebro-spinal fluid. Cells in the cerebro-spinal fluid numbered five per cubic millimetre. The result of the globulin test was "++" and the goldsol test yielded a doubtful reaction. Blood examination revealed that the erythrocytes numbered 5,000,000 and the leucocytes 10,600 per cubic millimetre. Of the leucocytes the polymorpho-nuclear cells numbered 62%, the lymphocytes 27%, the eosinophile cells 1% and transitional cells *et cetera* 10%. The red cells were normal in size, shape and staining properties.

On admission to the Callan Park Mental Hospital the patient was dull, drowsy and lethargic. He had intense headache in the temporal region and had but little control of the bladder and rectum. He was disorientated, his memory was defective, he was unable to feed himself and could not sit or stand without support. His speech

was slow and hesitating. It was also ascertained that he had lost sexual sensation and power for some considerable time. On examination the skin was seen to be fine, somewhat sallown and waxy, dry and less movable than normal. There was a curious fine wrinkling on the face and forehead. The hair was scanty and thin on the head and there was practically none on the eyebrows, face, chest, armpits or limbs and the pubic distribution was of the feminine type. The mammae were well developed, but except for the thighs fat was not conspicuous elsewhere. He was of medium stature, the hands and feet were small, the pelvis was broad and of the feminine type and the tongue was large and flabby. The arteries were soft and pliable, the blood pressure was low, the pulse rate was 70 to 80 per minute and the respirations were shallow. The temperature rarely rose above 36.2° C. (97° F.). Micturition was frequent. Vision was defective. Both discs were choked. The pupils reacted slowly to light and accommodation, the left being the larger. The knee jerks were active and the plantar reflexes were of the flexor type.

After remaining in a semi-comatose state for about five weeks, the patient died.

#### Diagnosis.

In considering the diagnosis it was necessary to remember several factors. The para-syphilitic affection, the fact that he had been treated for myxœdema, the presence of the choked discs and the signs found on examination led to the provisional diagnosis of pituitary insufficiency. It was recognized that the insufficiency had not caused a true Fröhlich's syndrome owing to the age of the patient, but it was thought that the disturbances in the sexual sphere and the skin changes were associated with some intracranial tumour.

#### Post-Mortem Findings.

After removal of the brain a mass was seen to occupy the interpeduncular space. The pituitary body, though normal in appearance and on microscopical examination, was flattened. Sagittal section revealed the presence of a supra-pituitary tumour which will be described later. The membranes were slightly thickened and opaque. There were granulations on the ventricles and microscopical examination of the cortex, especially the *cornu ammonis*, revealed moderate but definite signs of subacute cerebritis compatible with a diagnosis of general paralysis of the insane. Photographs were taken of a sagittal section of the brain including the tumour (see Figure I.). Figure II. is the reproduction of a micro-photograph of a section of the tumour. Figure III. is a diagrammatic representation of a sagittal section of the specimen imposed on to that of a normal brain. This indicates the position of the lesion. Microscopically the tumour resembled an endothelioma, there were multi-nucleated cells in the stroma round the blood vessels and there were cystic spaces of varying size. The tumour was definitely supra-pituitary in position and extended from the *lamina terminalis* and the optic chiasma anteriorly to the junction of the *aqueductus cerebri* and third ventricle posteriorly so filling the third ventricle. Dorso-ventrally its extent was from the roof of the third ventricle which had been displaced somewhat dorsally, to the floor of this ventricle and

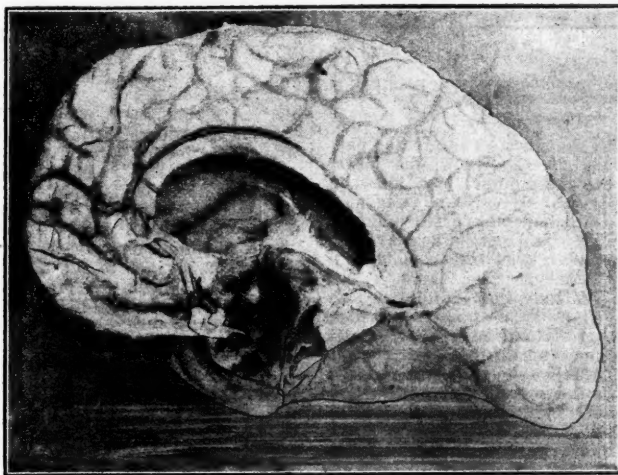


FIGURE I.  
Photograph of sagittal section of brain including tumour, showing dilated lateral ventricles, obliteration of third ventricle and infiltration of region of *tuber cinereum*.

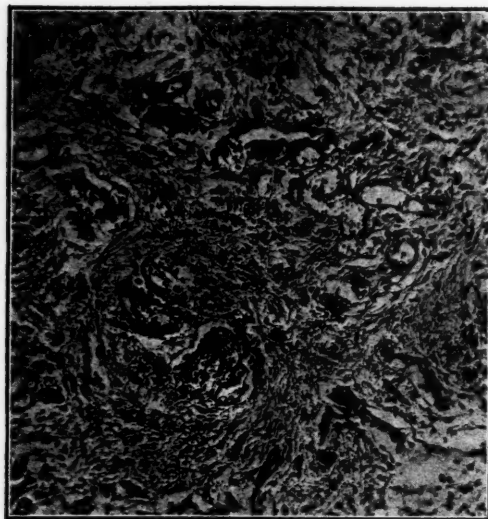


FIGURE II.

Micro-photograph, showing endotheliomatous nature of tumour with numerous cystic spaces.

from the optic chiasma to the aqueduct. The greater part of the tumour was hæmorrhagic as shown in the blackened area of the diagram; the most dorsal part filled up the cranial end of the aqueduct of Sylvius and was non-hæmorrhagic. Much of the tumour was cystic (shown as hatched in the diagram). It could not be described as capsulated. The *lamina terminalis* was intact though in intimate contact with the tumour. The tumour was attached to the floor of the ventricle immediately behind the optic chiasma, that is to the *tuber cinereum* which was flattened thereby. The *pars mamillaris hypothalami* was replaced by the infiltration which in this position was also hæmorrhagic. The interpeduncular space was reduced on account of the tumour to a narrow slit five millimetres in extent, while the third nerve was intact though compressed and its course lay along the lateral aspect of the tumour. The lateral ventricles were definitely dilated, the *corpus callosum* was stretched and altered in position and the fornix was pushed downwards from interference with drainage through the interventricular foramina.

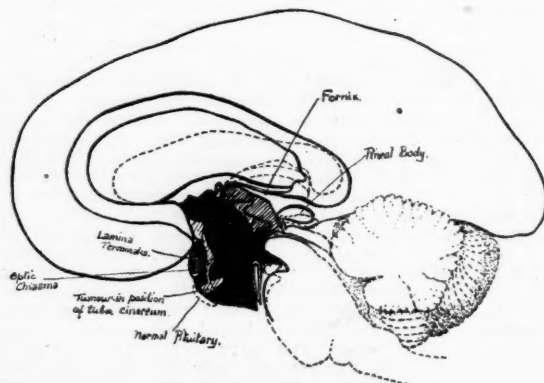


FIGURE III.

Drawing of brain in heavy black lines. The drawing has been superimposed over a tracing of a normal brain of similar size (in dotted lines) and thus the distortion caused by the tumour is rendered more conspicuous. The area occupied by tumour tissue has been rendered in stipple, the hæmorrhagic area in deep black.

### Summary.

A case is presented in which although the pituitary body was normal in regard to both macroscopical and microscopical appearances, the patient presented a syndrome approaching that often described as resulting in adults from deficient activity of the posterior lobe of the pituitary body. The *pars intermedia* may be included in this deficiency if Jelliffe and White's evidence is accepted in regard to the results obtained from experimental obstruction or division of the hypophyseal stem in animals. In addition a supra-pituitary tumour was present which by infiltrating and destroying the hypophyseal stem and the supra-pituitary nuclei may have interfered with the absorption of the internal secretion. The clinical and pathological findings closely resemble those described in three cases by Dr. Armstrong.

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### Reviews.

#### DENTAL CARIES.

It is now some thirteen years since "The Prevention of Dental Caries and Oral Sepsis" by Dr. Pickerill was first published. This work created a great stir at the time amongst many members of the dental profession and some of their medical confrères, dealing as it does with the commonest of all diseases today—dental caries and the more insidious oral sepsis which in its ultimate results in such a menace to the health of all civilized people.

A second edition was required in 1914, but from this year until 1919 the author declares all interest was concentrated in the events, progress and termination of the Great War. The present edition is the result of the renewed interest in the problems dealt with and includes several new diagrams which the author hopes will render the wonderful adaptability of the salivary secretion to be better and more quickly grasped.

Results of further interesting investigations into the cause of immunity to caries amongst Maori children have also been included. These results Dr. Pickerill considers are important in that they show that the resistance of the body tissues and fluids is the important factor in dental as in other diseases.

We are sorry to note that there has been no further development of the suggestion of inoculating the mouth with the yeast germ, *Saccharomyces coagulatus*, with a view to the more rapid reduction and dispersion of the carbo-hydrate debris as a preventive of dental caries—a method that seemed to have distinct promise of utility.

As evidence of the widespread interest and appreciation this book has commanded, it is of interest to note that since 1911 German and American editions have been called for and the greater part of it has been translated into Japanese.

This book is one that every dentist should read and read again; it can also be commended to the attention of the rapidly increasing numbers of medical practitioners who are alive to the necessity of eradicating oral infection as a first step in the treatment of many general diseases with which they are concerned.

The volume is well bound, the subject matter is well set out and printed on glazed art paper and is accompanied by many excellent illustrations. A very complete index and a list of authorities referred to in the text conclude the volume.

<sup>1</sup> "The Prevention of Dental Caries and Oral Sepsis," by H. P. Pickerill, C.B.E., M.D.; Third Edition; 1923. London: Baillière, Tindall and Cox; Demy 8vo., pp. 352, with 80 plates and figures in the text. Price: 18s. net.

## RECTAL SURGERY.

In his book on diseases and injuries of the rectum, anus and colon, Dr. Pennington presents his subject in a most readable and delightfully original manner.<sup>1</sup> Commencing each chapter with the history, both ancient and modern, of the subject, he makes the past masters live again by the aid of reproductions of old engravings, pictures and portraits. Also he forces us to appreciate how with all our vaunted modern improvements in technique, we yet owe most of our skill to the work done by our predecessors. We are taken back to the time of the ancient Egyptians and Greeks and led forward again to the most recent theories and improvements. Besides the portraits, the book is well illustrated with drawings and diagrams and yet the author has resisted the temptation to which so many American authors succumb, of filling the pages with almost life-size representations of forceps and other common instruments attached to anatomy-room preparations. Every all-round surgeon who loves his art, would enjoy having this book on his shelves.

## SUNSHINE AND OPEN AIR.

In "Sunshine and Open Air" Leonard Hill gives a concise and scientific explanation of these subjects.<sup>2</sup> They are dealt with from their physical and chemical aspects, but the practical side is not forgotten. Many interesting experiments are described and the value of sunshine and fresh air critically tested.

In dealing with the composition and physiological effects of high and low atmospheres, he compares the equable Alpine climate with conditions elsewhere. Numerous experiments prove the advantages to health of the Alpine climate and natural freedom from infective organisms. Humidity and damp houses are shown to have a definite relation to catarrhal conditions, while outdoor life with increased respiratory evaporation definitely increases immunity.

The rationale of ventilation is discussed and importance is laid on what is called the physiological saturation deficit. Sunlight is held to act through its ultra-violet rays, radiation and brightness. Ultra-violet rays while being strongly bactericidal, have little penetrative power, probably acting like counter-irritants with immunizing properties. The biological actions of heat and light are dealt with fully, while the penetrative property of visible rays and their action on the blood and tissues are discussed, as well as pigmentation and its functions.

The action of light on basal metabolism, especially in relation to rickets, is shown and the cooling effect of air in relation to skin resistance strongly emphasized. Finally, the remarks on clothing should be studied by all, as should the fact that there is no such thing as catching cold, but that all colds are due to infection and a disregard of the benefits of sunshine and open air.

While this book, in parts, makes difficult reading for the untrained mind, it contains so much of value on this subject that it should be valuable to all readers, especially those of the medical profession.

## A MANUAL ON VENEREAL DISEASE.

It is five years since the first appearance of Wansey Bayly's "Venereal Disease." The author has been encouraged to write a second edition because the reception accorded the first edition suggested that an inexpensive and concise review of this wide and important question was welcomed by the student and the general practitioner.<sup>3</sup>

<sup>1</sup>"A Treatise on the Diseases and Injuries of the Rectum, Anus and Pelvic Colon," by J. Rawson Pennington, M.D., F.A.C.S.; 1923. Philadelphia: P. Blakiston's Son and Company; Demy 8vo., pp. 945, illustrated. Price: \$12.00.

<sup>2</sup>"Sunshine and Open Air: Their Influence on Health, with Special Reference to the Alpine Climate," by Leonard Hill, M.B., F.R.S.; 1924. London: Edward Arnold and Company; Demy 8vo., pp. 138, with eight plates. Price: 10s. 6d. net.

<sup>3</sup>"Venereal Disease: Its Prevention, Symptoms and Treatment," by Hugh Wansey Bayly, M.C.; Second Edition; 1924. Sydney: Butterworth and Company (Australia), Limited; Royal 8vo., pp. 192, with 58 illustrations. Price: 9s. net.

The work is dedicated to those medical officers who during the war "realized, taught and proved the value of immediate self-disinfection."

In a voluminous preface, the author vigorously defends the policy of the Society for the Prevention of Venereal Disease. In a work of this kind, intended for students and general practitioners, we would have preferred an impartial review of the subject of prevention rather than a spirited advocacy of a policy which finds many opponents among those whom experience qualifies to express an opinion. Apart from prevention the book follows conventional lines: there are chapters on the clinical diagnosis and treatment and a particularly good one on the pathological diagnosis of syphilis. The field of gonorrhoea in both male and female is well covered and due regard is paid to the important question of standard of cure.

On the whole, the illustrations are not first-class and some are much less convincing than the originals appearing in other publications.

The book is largely a *pot pourri* of various other works acknowledged in the preface. Although the market is heavily over-supplied with publications on venereal disease, this little book may be of service to those who require a short and practical account of the essentials of diagnosis and treatment of the diseases with which it deals.

## LABORATORY METHODS OF DIAGNOSIS.

A SEVENTH edition of Webster's diagnostic methods is to hand and though only two years have elapsed since the appearance of the previous edition, there are in the latest work many additions which considerably enhance the value of the book.<sup>4</sup>

Among these will be found a description of the methods now utilized for the typing of pneumococci. Of special interest in this respect is the method of Oliver in which the types are differentiated by means of a precipitin test applicable to the sputum thus obviating the necessity of mouse inoculation with its attendant delay, an important point in the application of serum therapy.

Reference to the method of fractional examination of the gastric secretion by means of the Rehfuess tube, is made. More space might well have been given to a description of the interpretation of results thus obtained since this method of examination is likely to prove of value in the study of gastric function as has been shown by the recent publications of Bolton, Goodhart and Bennett in England and Apperly in Australia. As it is the reader is left rather bewildered as to the exact value of the method. Owing to a brief reference to the work of Gorham who advanced reasons showing that the fractional method of examination was likely to be fallacious. A typographical error occurs in the description in line 37, page 59, the word "hypersecretory" being printed instead of "hyposecretory."

Mention is made of the Meltzer-Lyon method of obtaining bile from the duodenum by means of the Rehfuess tube and reference is made to the likely value of this method in the detection of typhoid carriers. Publications which have appeared within the last few months, have borne out the corrections of this forecast.

An important addition from the medico-legal aspect is the description of Hektoen's precipitin test for seminal stains. This is a specific test not only for the presence of semen, but also for the semen of each species.

A full description of Kolmer's standardized method of technique for performing the Wassermann reaction is given. Kolmer's work in this respect marks (with the work of Griffith and Scott in England) the greatest advance in this debatable subject that has been attained and the description of his method is worth the attention of all serologists.

<sup>4</sup>"Diagnostic Methods: Chemical, Bacteriological and Microscopical," by Ralph W. Webster, M.D., Ph.D.; Seventh Edition, Revised and Enlarged; 1923. Philadelphia: P. Blakiston's, Son and Company; Demy 8vo., pp. 946, with 37 coloured plates and 172 illustrations. Price: \$9.00.



While more space could scarcely have been allotted in the book to the question of serological diagnosis in syphilis, the absence of any reference to the important researches of Griffith and Scott is conspicuous.

A description of the colloidal benzoin reaction of Guilain, Laroche and Lechelle is given. This test is analogous to the gold sol reaction of Lange, but it has the advantage that the test solution, colloidal benzoin, is more easily prepared and more stable than the colloidal gold used in the Lange test.

The chapter on clinical bacteriology has been extended to include a discussion on and description of the various pathogenic anaerobes in the light of knowledge gained as a result of wound infections occurring during the war. The clinician interested in bio-chemistry will find several additions in the seventh edition which help to bring this aspect of the work up to date.

Webster's diagnostic methods are too well known to need much recommendation and the fact of the work having successfully passed through six editions is sufficient evidence of its merit.

#### SANITARY INSPECTION.

Mr. J. H. CLARKE has made a great many additions and to a large extent re-written the fifth edition of "Taylor's Sanitary Inspector's Handbook" recently published.<sup>1</sup>

The book is primarily written as a text-book for students and the advice given them as to how to take notes and furnish reports should be of great assistance to those preparing for sanitary examinations. The various legal enactments, orders and regulations of the Ministry of Health occupy a considerable space in the book and furnish a reliable guide to the sanitary expert in carrying out his multifarious duties.

This is a thoroughly up-to-date work and a worthy effort of a practical man. It will be not only valuable to students, but to sanitary inspectors and other engaged in sanitary administration as a handy book of reference. Many of the articles, especially those on drainage and the disposal of excreta, are well illustrated. Those in charge of sanitary departments would do well to have a copy in their library.

#### IMMUNOLOGY.

"Infection, Immunity and Biologic Therapy" is the title of Dr. Kolmer's book which has recently appeared in its third edition.<sup>2</sup> It contains a concise account of the present-day knowledge concerning infection and immunity and its practical application to the diagnosis, prophylaxis and treatment of disease. It is splendidly illustrated and provides full and accurate descriptions of the various methods used in immunological research, together with the outline of a laboratory course in experimental infection and immunity for medical students. The book is, however, much more suitable for the post-graduate student or for the laboratory worker than for the student before graduation, as it is much too voluminous for use as a text-book. For the laboratory worker it will be found to be most useful; despite the fact that the author lays no claim to have furnished a complete bibliography, the book contains a large number of references to important papers and the descriptions of immunological methods are sufficiently detailed to serve as a guide to those desirous of using them.

The rapid advances in this branch of medical science during the past decade have necessitated considerable changes in the present edition. In a new chapter on blood transfusion the author deals fully with its technique

and its use, not only after hæmorrhage and in shock, but also in hæmorrhagic diseases and in diseases of the blood. In another new chapter the serum reactions in syphilis other than those involving the use of complement fixation are explained. Nearly a quarter of the book is devoted to treatment and the sections on the principles of tuberculin therapy and on vaccine, serum and non-specific therapy are very well done. The author has here adopted the plan of treating all the methods together under each disease, which adds to the attractiveness of the book from the practitioner's point of view; he has dealt with the whole subject in a clear and critical manner. The work is particularly interesting in its treatment of anaphylaxis and allied conditions.

Since the greater part of our knowledge concerning immunity and infection is dependent on experiments upon animals, it is fitting that a work of this kind which covers the whole field, should include an account of those diagnostic reactions and applications of specific therapy that have a direct bearing upon veterinary medicine.

Of necessity theories form a large part of the modern science of immunology and the vast mass of observed facts are only welded into a coherent whole by the far-reaching concepts of Ehrlich and Metchnikoff. It may be that in the future these theories may have to be discarded in favour of some simpler physical conceptions or that the final explanation of the main phenomena of immunity may be found to be even more complicated than that now accepted. In any case in the discussion of this subject a very clear line must be drawn between the observed facts and the theories that at present are so serviceable in correlating them. This Dr. Kolmer has achieved very happily and though his book contains an enormous mass of the experimental data of immunology and these are logically presented in an ordered sequence, the reader is never allowed to forget the distinction which exists between fact and hypothesis.

#### HARE LIP AND CLEFT PALATE.

Dr. BROPHY published in 1915 a volume of some 1090 pages entitled "Oral Surgery." This work has been reprinted several times. Portion of it was devoted to the consideration of hare lip and cleft palate. In order to meet the demand, he has published in 1923 a smaller volume of three hundred and thirty-three pages devoted exclusively to cleft lip and palate and embodying much new work of considerable value.<sup>1</sup>

The principle underlying his method of treating cleft palate is well known, but is subject to much criticism. Briefly, he approximates the maxillæ in the earliest weeks and months of life by means of pressure maintained by silver wires passing through those bones and across the cleft above the palate. The wires are twisted over lead plates which are opposed to the alveolar margins in the gingivo-labial fold on either side. By this means he closes the cleft separating the hard palate. When the wires and plates are removed some weeks later, he repairs the cleft lip. About fourteen months of age he closes the soft palate. By this procedure Dr. Brophy contends that the full length of the palate is maintained and that this is essential to secure normal speech. Although Langenbeck's method will give most excellent results from the point of view of plastic surgery, the after results in respect to speech are disappointing. Similar criticism applies to the flap method done in earliest infancy as advocated by Lane. The technique of Brophy's operation is not difficult in so far as closure of the anterior part of the hard palate is concerned. The approximation of the tuberosities of the maxillæ in order to close the posterior part of the hard palate is, however, a different proposition altogether. If this is not accomplished, it is questionable whether any advantage is obtained over other methods in which repair of the lip is primarily affected. Although not the last word on this important branch of plastic surgery, Dr. Brophy has given the profession the most valuable contribution on cleft lip and palate it has yet received.

<sup>1</sup>"Taylor's Sanitary Inspector's Handbook," Edited by John H. Clarke, Member Royal Sanitary Institute; Sixth Edition, Re-written; 1924. London: H. K. Lewis and Company, Limited; Crown 8vo., pp. 552, with 116 illustrations. Price: 12s. 6d. net.

<sup>2</sup>"A Practical Text-Book of Infection, Immunity and Biologic Therapy, with Special Reference to Immunologic Technic," by John A. Kolmer, M.D., D.P.H., D.Sc. (Hon.), with an Introduction by Allen J. Smith, M.D., Sc.D., LL.D.; Third Edition, Thoroughly Revised and Mostly Rewritten; 1924. Philadelphia and London: W. B. Saunders Company; Melbourne: James Little; Royal 8vo., pp. 1210, with 265 illustrations of which 51 are in colour. Price: 60s. net.

<sup>1</sup>"Cleft Lip and Palate," by Truman W. Brophy; 1923, Philadelphia: F. Blakiston's Son and Company; Sydney: Angus and Robertson, Limited; Royal 8vo., pp. 364, with 465 illustrations and coloured plates. Price: 32s. 6d. net.



## The Medical Journal of Australia

SATURDAY, AUGUST 23, 1924.

### The Public Medical Services.

THE medical profession may be regarded as comprising three distinct groups of practitioners. The first and largest group is that of the private practitioners who attend patients in their own homes or elsewhere and receive payment either for each attendance or on a contract basis or in public hospitals usually without payment. The private practitioner makes his own arrangements with his private patients without any aid from the Branches of the British Medical Association, although in certain States the Branches have set up a scale of fees for the convenience of practitioners. These scales fix the minimum and maximum charges for various services. Practitioners by adopting the scale find it of great advantage in that the competition between them is reduced to a question of professional ability. The Branches of the Association have found it necessary to standardize the conditions of contract practice with the friendly society lodges in order to prevent inequitable bargaining with individual practitioners. An enormous amount of work is carried out by the Branch Councils in this connexion and the profession derives financial and professional benefit as a result. The standard of contract practice has been raised in this way, so that the patients share with the doctors the benefits accruing from the intervention. Medical practitioners have no need for assistance or coordinated action in regard to hospital practice, at all events in the larger institutions. The appointments of honorary surgeons, physicians and specialists are valuable not only on account of the experience this work brings with it, but also on account of the status which they give to the holders. In the case of the salaried positions the Branches of the British Medical Association find it necessary at times to exercise some supervision and to intercede when the terms and conditions do not appear to be satisfactory.

The second group of medical practitioners embraces those who occupy salaried positions in non-public organizations. Industrial firms, shipping companies, private individuals and even the medical profession itself act as employers. Hitherto the practitioners obtaining these engagements have been able to look after their own interests more or less satisfactorily and only under special circumstances have they approached the Branches of the British Medical Association for assistance in securing improved conditions of service.

The third group is a rapidly increasing one. It comprises those medical practitioners who are employed by the public services and by public bodies. The governmental health departments, departments of education or public instruction, the lunacy or mental hospital authorities, the defence departments, including the Repatriation Department, the postal, telephone, railway and tramway departments, the several municipalities, many public service boards, such as the water and sewerage boards, the State children's boards and the boards controlling the aborigines, the universities and several other public organizations are the task masters. This group is obviously somewhat heterogeneous. It goes without saying that no one would suggest that the body organized to look after the interests of the medical profession should impose upon itself the duty of negotiating with a university council or senate to secure a modification in the regulations governing the appointment of professors, lecturers and tutors in the medical schools. On the other hand there are many practitioners employed in the medical branches of the public services who are in need of a powerful organization to undertake the negotiations with the authority employing doctors and to formulate the demands of the profession. In October, 1923, we directed the attention of our readers to the action taken by the Council of the British Medical Association in relieving the Society of Medical Officers of Health of its medico-political activities. The Federal Committee of the British Medical Association in Australia has recently considered a proposal that the medical officers in the several government health departments should have representation on the six Branch Councils. As it was found that in the most

populous States one or more members of the health departments were members of the Branch Councils, it would be premature to adopt a hard and fast rule at the present time. The Victorian Branch Council has for some time lent its aid in the endeavour to secure adequate remuneration for country medical officers of health. These health services are steadily assuming formidable proportions. We have pleaded for the better coordination of the various branches of the health services and claim that it would be logical and expedient to anticipate a merging of those branches by the creation of special machinery by the Branches of the British Medical Association to safeguard the interests of the medical officers of these departments and simultaneously to raise the standard of the work. Formerly when friendly society lodge practice was left to the care of the lodge surgeons themselves, the conditions and rates of remuneration were unsatisfactory and the standard of work left much to be desired. With the regulation of the conditions and the fixing of a fair rate of remuneration, there has been a remarkable change in the quality of the professional work. It is anticipated that the health medical officers will be brought into intimate contact with the general practitioners within a short time and that many reforms will be introduced with the inauguration of an extensive campaign of preventive hygiene. It is essential that the condition of employment of those undertaking important duties in this connexion should be satisfactory so that the services may attract the best men and women and so that the standard of work may be high. In order to achieve this end, some professional organization must be charged with the task of compelling the authorities to attach reasonable conditions and generous emoluments to the offices.

### Current Comment.

#### PNEUMOCOCCAL VACCINE.

EVER since Pfeiffer and Almroth Wright advocated the employment of bacterial vaccines for the purpose of raising immunity both for prophylactic and therapeutic purposes, very keen controversy has taken place in medical circles. In the first place the value of laboratory methods of measuring

immunity has been hotly disputed. Wright met with a storm of opposition in regard to the justification for regarding the opsonic index as a measure of immunity. It is still far from proven that agglutination and complement fixation are indicators of the degree of immunity. The proof of the power of a given vaccine to induce a protective immunity is consequently only to be sought by direct observation on persons and animals exposed to infection and by failure to induce an infection in susceptible animals and human individuals. In regard to the value of typhoid vaccine it may be said that the battle has been won. Not so in the case of pneumococcus vaccine. Sir Spencer Lister, whose work on the typing of pneumococci and on prophylactic inoculations with pneumococci is well known all over the world, has recently thrown down a gauntlet in the course of a very admirable exposition of the subject of the value of pneumococcal vaccine delivered at a meeting of the Transvaal Mine Medical Officers' Association.<sup>1</sup> The gauntlet was immediately picked up. The story told by Sir Spencer Lister may be summarized in a few words. In 1911 Almroth Wright was summoned to Witwatersrand to investigate the problem of lobar pneumonia among African natives from the tropics in the gold mines. Wright failed to discover in the opsonic index or in the agglutination test a guide for the dosage of vaccine. Direct trial also failed to disclose a protective influence of the vaccine. In 1913 the simultaneous discovery in Johannesburg and in the United States of America of the biological differences of the several types of pneumococci threw the whole question into a different light. Sir Spencer Lister, having set up his own classification of the types, proceeded to immunize rabbits with each type and found that after intravenous inoculation immune bodies (agglutinins and opsonins) always appeared. He further discovered that the serum of patients at the time of the crisis contained these antibodies corresponding to the type of organism infecting the patients. As about 70% of the infections leading to lobar pneumonia were with pneumococci of Lister's Group A., B. or C., a vaccine of these three strains was prepared and three injections were given to each native miner newly arrived at one mine. No less than 10,866 recruits were inoculated. The result was that, while eighty-two of these men were attacked by pneumonia during the following nine months, in no one instance was the infection caused by pneumococci of Groups A., B. or C. Twelve of the men died, yielding a case mortality of 14.63%. Among the miners not subjected to the experimental inoculation the case mortality for the same period was 34.7%. In 1918 a larger test was instituted. It was arranged that three doses of the vaccine should be given to every native recruit in all the mines. The author paused to call especial attention to the fact that pneumococcal vaccine is necessarily useless for broncho-pneumonia and other lung affections associated with influenza. Unfortunately the differentiation between lobar and broncho-pneumonia was not always possible on clinical

<sup>1</sup> The South African Medical Record, March 22, April 12 and 26, 1924.

evidence alone and no doubt many mistakes occurred. Orenstein, a medical officer of a large group of mines, has put on record that the reduction of the pneumonia mortality from 4% to 2.6% has been a "fluke" and that within ten years it would return to the former level. The author points out that after six years it is still about 2.5%. He refers to the experimental work of Cecil and Blake on monkeys which demonstrated in a striking manner that very large doses were needed to induce complete protection. He therefore introduced a vaccine containing eight different groups of pneumococci; each cubic centimetre contains one thousand million of each of these types. In 1916 the effect of large doses in the treatment of pneumonia was tested. The maximum dose given was twenty thousand million pneumococci. Forty men actually ill with pneumonia were treated. Of these one died within twenty-four hours of admission. The man had been ill for six days. Another died of an undiagnosed empyema. Excluding these two, there were four deaths, which yields a case mortality of 10.6%. He states that immune bodies, otherwise absent from the serum before the crisis, appear within a short time of the exhibition of the vaccine. His opinion is that if it can be given early, pneumococcal vaccine is of use in the treatment of lobar pneumonia.

In the discussion which followed, many critical remarks were made. Some of these need not claim our attention; they do not contribute to our knowledge of the subject. The chief objections brought forward to Sir Spencer Lister's claim were statistical. In the first place it was urged that part of the reduction in the mortality was due to the fact that the natives from the tropical parts of Africa had been repatriated, especially between 1911 and 1913. The mortality among these natives is extremely high. In the next place it was pointed out that there had been a rise in the death-rate in the Crown Mines, during the years 1921 to 1923. This increase suggested that something else than the protective inoculation had been active in reducing the mortality in the previous years. The reply to this criticism was that of the forty-six persons who had died in 1922 and 1923, eleven had not been inoculated at all and seven others had been inoculated only once. Another critic refused to accept the statistical evidence because there were no controls. The same critic asked for a much longer period of testing, in order to eliminate the endemic and epidemic variations. Sir Spencer Lister pointed out that the system of inoculating only the new arrivals at the mines would have the effect, if it were efficacious, of interrupting the chain of infection. In order to test this he had deliberately done without controls. The last and most elaborate objection was based on the reading of statistics. It is impossible to deal adequately with these differences of interpretation of figures in a few words. Nor is it essential. The most powerful argument put forward by Sir Spencer Lister is that when he employed a vaccine composed of types A., B. and C. pneumococci, not one of the inoculated was attacked by pneumonia due to these types.

#### THE LYMPHATIC SYSTEM AND THE APPENDIX.

IN 1923 Braithwaite published results of his investigations into the lymph flow from the ileo-caecal angle. Reference was made to his work in our issue of December 1, 1923. Braithwaite endeavoured to find an anatomical reason for the frequent association of pathological changes in the appendix with abnormalities in the region of the pylorus and duodenum. It will be remembered that he carried out a series of injections in an attempt to trace a connexion between the lymphatic vessels of both regions. In some instances he was able to produce a coloration of the glands surrounding the superior mesenteric artery. He thought it possible that there exist reserve sets of lymph channels as well as lymphatic glands and that these come into play either under unusual pressure of the lymph or in the presence of obstruction of normal channels due to disease. He presumed that in gastric conditions associated with lesions of the appendix an obstructive lymphangitis had taken place in order to allow the deflection of the lymph from its normal path.

Reference has recently been made to this subject by Dr. Dan Berceanu.<sup>1</sup> He studied fifty-one specimens from the bodies of newly born infants after using injections of Prussian blue, ether and turpentine. He found that the efferent lymphatics of the appendix followed the body of the pancreas into the right colic lymphatic trunks. He further states that the first lymphatic glands which receive the efferent appendiceal trunks, have a variable situation. He separates these glands into three groups. The first group is the inferior or ileo-caecal group and comprises the glands situated around the base of the meso-appendix in the caeco-appendicular arterial angle and in the thickness of the meso-appendix. The middle or mesenteric group of glands comprises those situated in the course of the mesenteric vessels from the origin of the appendiceal artery to the lower edge of the third portion of the duodenum. The third group is the superior or duodeno-pancreatic group formed by the glands situated in the region of the duodenum and the head of the pancreas. The efferent lymphatics of the appendix in the fifty-one specimens examined by Dr. Berceanu were emptied straight into these different groups of glands in the following proportion. They were emptied into ileo-caecal glands in thirty specimens, into mesenteric glands in eighteen specimens and into duodeno-pancreatic glands in three. In no instance did he see appendiceal lymphatic glands in the region of the gall bladder or common duct. The glands found at the level of the pancreas were not in contact with the common duct.

Dr. Berceanu concludes that there exist lymphatic glands in the duodeno-pancreatic region into which appendiceal lymph can become emptied by a normal path. He refers to the observations of Braithwaite and to the fact he postulated an abnormal condition for the conveyance of appendiceal lymph to the duodenal region. The clinical importance of this work is obvious and its confirmation on a more extensive scale will be awaited with interest.

<sup>1</sup> *Revue de Chirurgie*, Numéro 5, 1924.



## Abstracts from Current Medical Literature.

### BACTERIOLOGY AND IMMUNOLOGY.

#### Experimental Inoculation of Guinea Pigs with *Leptospira icteroides*.

RUTH C. WANSTROM (*The Journal of Infectious Diseases*, February, 1924) gives details of a study of the occurrence and distribution of a strain of *Leptospira icteroides* in the tissues of inoculated guinea pigs. After reviewing the work of Stinson, Noguchi, Hoffmann and Perrin the author compares her own results with their findings. A Peruvian strain of *Leptospira icteroides* was used in the experiments, transmissions being made from animal to animal every five days with liver emulsions. The Warthin-Starry silver argy method was employed in staining the organisms in the tissues and in smears from infected organs. This method is as follows: (i.) Thoroughly "air-dry" the smears; (ii.) fix in absolute alcohol for three minutes; (iii.) wash in distilled water and dry; (iv.) immerse in 2% silver nitrate solution and cover with clean cover slip, also wet with silver nitrate so that capillary attraction will hold the two together; (v.) allow to stand in silver nitrate in a warm place for two hours, then remove cover slip and place the smears in a reducing mixture consisting of three cubic centimetres of a 2% silver nitrate solution, five cubic centimetres of warm glycerol, five cubic centimetres of warm 10% aqueous gelatine, five cubic centimetres of warm 1.5% agar solution and 0.8 to one cubic centimetre of 5% aqueous hydroquinone; (vi.) reduce until the smear as well as the reducing substance is a dark brown; (vii.) rinse in 5% sodium thiosulphate solution; (viii.) rinse in distilled water, carefully wipe off any precipitate on the cover-slip, dry in air and mount in Canada balsam. By this method *Leptospira icteroides* stains an intense black in contrast to the grey or light brown background and are stained as well and as easily as *Spirocheta pallida*. In staining tissues by this method small pieces are placed in 10% solution of neutral "Formol" immediately on removal from the animal. After three days the tissue is dehydrated, infiltrated, embedded in paraffin and sections five microns thick are mounted on number 1 coverslips. After removal of the paraffin the sections are placed in a concentrated solution of hydrogen peroxide for ten minutes. After again washing in distilled water the coverslip is placed in 2% silver nitrate solution. In the tissues examined *Leptospira* was found in large numbers in the liver; in the bronchi of the lung and in and around the hemorrhagic areas which occur scattered through the lung, in the spleen, inguinal glands, pancreas, heart muscle, subcutaneous fat and loose

tissues of the eye. In the brain and spinal cord they were few and difficult to demonstrate. In the kidney the organisms appeared in the interlobular interstitial tissues and in the walls and lumina of the convoluted tubules. Only an occasional one was found in the glomeruli, in the loops of Henle, straight tubules or medullary pyramids. By finding vast numbers in the tubules the author is able to confirm Warthin's observation that spirochaeturia is a characteristic of the spirochaetal infections. Fatty changes in the liver and kidney were slight. Acute congestion of all organs was present most noticeably in the liver, kidney, spleen, lung and lymphatic glands. The tissue changes were not as severe as has been reported in the organs of individuals dead of yellow fever and the type of lesion resembles those found in experimental infective icterus.

#### Acquired Immunity to a Metazoan Parasite.

LESLIE B. AREY (*Journal of Experimental Zoology*, November 20, 1923) describes the results of experiments conducted to test the production of immunity to infection by glochidia (the larval form of fresh water mussels) in the black bass (*Micropetrus salmoides*). It was found that after several infections the parasites degenerated in two or three days instead of completing their metamorphosis within the cyst attached to the gills or fins of the fish. Older fish acquired immunity with fewer treatments than young fish and this is explained by the probability that such fish had been previously infected. An attempt to ascertain whether a heavy infection was more efficient in producing immunity than a light infection was inconclusive. A batch of fish which received a normal number of glochidia, showed immunity at the fourth infection. The batch which received four times this number of glochidia, showed signs of immunity at the third infection. Fish that become immune with two or three infections, cause the parasites to die more rapidly than fish that require four or more infections.

#### Syphilitic Infections in the Rabbit.

ALAN M. CHESNEY (*Journal of Experimental Medicine*, November, 1923) deals with a study of some of the factors which influence the course of experimental syphilis in the rabbit. The factors studied were those of age, sex and method of inoculation. The thirty-five rabbits used were divided into six groups as follows: (i.) Five adult females inoculated intradermally; (ii.) seven adult males inoculated intradermally; (iii.) five young males inoculated intratesticularly; (iv.) seven adult males inoculated intra-testicularly; (v.) five adult males inoculated intra-testicularly, castrated; (vi.) six adult males inoculated by scrotal implantation. The strain of *Treponema pallidum* used had after many passages through rabbits attained such a degree

of virulence for that animal as to produce primary lesions in 100% and generalized lesions in 80% to 100% of animals inoculated intra-testicularly. The immediate source of material was testicular tissue of two rabbits which showed clinical evidence of orchitis twenty-three days after inoculation. The testicles were excised under ether anaesthesia and portions finely minced and ground in a mortar with sterile normal saline solution. The more fluid portion of the resulting emulsion which contained numerous actively motile organisms, was used for inoculation. In the group of females inoculated intradermally the lesions at the site of inoculation were in general less severe than in the group of males similarly inoculated. Moreover the lesions attained their maximum size earlier and began to recede earlier in the females. It was found that young rabbits reacted to intra-testicular inoculation with the syphilitic virus with a more definite initial lesion than did older animals similarly inoculated and in the younger animals the subsequent appearance of generalized lesions was delayed and the lesions were less severe in character and extent. In the rabbits inoculated intratesticularly the development of the primary lesion and the incidence of general lesions involving skin and bone were much greater than in animals inoculated intradermally. The effect of castration upon animals previously inoculated intra-testicularly was to delay the appearance and lessen the incidence of metastatic lesions.

#### A Source of Error in Staining by Gram's Method.

WILLIAM M. SHEPPE AND MARY G. CONSTABLE (*Journal of Laboratory and Clinical Medicine*, August, 1923) lay stress on the importance of keeping Lugol's iodine solution in dark bottles in a moderately cool place. In investigating the causes of the decolorization of Gram-positive organisms in the process of staining by Gram's method it was found that the Lugol's solution used had become acid. This acidity could be produced at will by exposure to heat or light. Stains made with these test solutions were regularly decolorized by the Gram method as were those to which small amounts (0.75%) of hydriodic acid were added. Neutralization of the acidity by the addition of sodium bicarbonate resulted in the disappearance of stains falsely decolorizing by the Gram method.

#### Cultivation of *Leishmania Tropica*.

I. J. KLIGLER (*American Journal of Tropical Medicine*, January, 1924) records the successful cultivation of *Leishmania tropica*. Cultures were obtained from three patients suffering from sore from three different sources and the organisms were kept alive for periods ranging from two and a half to three and a half months. One culture has been successfully carried through eight generations during a

period of thirteen months. In collecting the material the surface of the boil and surrounding skin were painted with tincture of iodine and washed thoroughly with alcohol and ether. A capillary pipette was inserted near the base of the boil and twisted about to break up the tissue. Small amounts of the material were taken up in the pipette and inoculated into culture tubes. Material infected with *Staphylococcus albus* always failed to yield a culture of *Leishmania tropica*. The medium used was prepared by adding one part of dextrose agar to nine parts of saline solution. The semi-solid agar was placed in a tube and auto-claved and before use 0.3 to 0.5 cubic centimetre of fresh rabbit's blood was added to each tube. The culture tubes were covered with sterile paraffin and incubated at 25° C. In successful cultures flagellated forms may be found by dark field examination on the third or fourth day. In old cultures the typical non-flagellated ovoid parasites such as are found in the lesions are encountered. The parasite is an obligatory aerobic and is sensitive to changes in the reaction of the medium, growth being best at pH 7.2.

## HYGIENE.

### Physical Examinations in a Department Store.

CHARLES A. SWAN and A. B. EMMONS (*The Journal of Industrial Hygiene*, February, 1924) state that economic waste in industry due to absence from work and to labour to-morrow is caused largely by avoidable illness and physical disability. This waste is so great that many employers have instituted physical examinations for prospective employees in an attempt to lessen it. In 1922 they examined 1,397 employees. Of these four hundred and five applicants or 29% of the total number alone were found to have no defects, while only a dozen refused examination, possibly, the authors think, because they were afraid of the discovery of defects known to themselves. The authors feel that rejections should be as few as possible and that an effort should be made to use those who are physically handicapped, provided there are positions available which they can satisfactorily fill. They further point out that it is essential for insuring success for all work in the correction of defects and the supervision of health that a thorough follow-up system be instituted, the employee with a correctable defect being summoned regularly once a month in order that the physician may see what progress is being made. They also urge regular re-examination of all employed. They affirm that physical examination of prospective employees is desirable because: (i.) They protect customers and old employees from infectious diseases, (ii.) they protect the applicant from undertaking work for which he is not physically adapted, (iii.) they protect the employers from economic loss by

enabling them to place employees in positions for which they are physically fit. Physical examinations are only the first step in department stores; without an effective follow-up system the value of the examination is in many cases lost. The expense of physical examinations is entirely justified by the results obtained in returns to the store.

### The Health of the Seaman.

HAROLD ENGELSEN (*The World's Health*, 1924), after briefly touching on the conditions at sea in earlier centuries, describes affairs pertaining in merchantmen in 1920. He draws a comparison between the Navy where there is no luxury but cleanliness and tidiness, and the merchantmen with their filthy and meagre accommodation. These offences against health on board ship are often due to ignorance of the elementary rules of hygiene and of the fact that diseases are often the result of such ignorance. Healthy living conditions are firstly of great importance to the seaman himself, but secondly also to the shipowners and State insurance on account of the economic consequences of disease. Inspections on passenger liners go to show that more is done for workmen on land than for seamen. Statistics for a period of eight years from 1892 to 1900 show that on an average five hundred seamen die every year on service, generally at their most vigorous age, and that many more die later as a result of diseases contracted during their service on board or else ruin their health for the remainder of their lives so that they are unfit for work. The author asks the question: "Can we prevent this"? Knowledge of the causes of disease and the way they spread has furnished scientific methods of prevention as is illustrated in Panama where the yellow fever campaign is reflected in the Norwegian statistics. In 1892 this disease killed one hundred and fifteen seamen, while in 1900 there was not a single death. The writer urges inoculation against typhoid and paratyphoid fevers as being obligatory. He also holds that proper examination might be made to discover tuberculous infection. Modern preventive measures might be applied against malaria and venereal diseases and greater cleanliness might be observed.

### Industrial Accidents.

HARRY D. KIDSTON and CLAUDE CAMPBELL (*The Journal of Industrial Hygiene*, March, 1924) have been able to compute the seasonal fluctuations in frequency of industrial accidents through the kindness of a number of state industrial boards. Working on figures from six separate states over a period of four years they dealt with 1,892,957 accidents and computed the average number of daily accidents each month. Although one of the years chosen was one of industrial expansion, while another was one of depression, yet the results showed a high degree of uniformity. A steady rise from a low point in April to a peak in August followed by a steady

drop to a low point in November was noted. This is explained by the fact that when the temperature was high, there was an increase in the accidents noted and thus during the summer months the incidence was heavier. The fact that 10% more accidents were noted in the second half of the year than in the first half is accounted for by this being a period of greater production. Although the number of accidents could not be computed in the basis of exposure of each employee per hour worked, there is evidence pointing to the influence of temperature, particularly high temperature, and to the influence of industrial activity, one manifestation of which may be a large number of new employees.

### The Relation of Industrial Medicine to General Practice.

HARRY MYERS (*The Journal of Industrial Hygiene*, December, 1923) points out that if the industrial physician in any way does otherwise than help to preserve the integrity of the general medical profession, his work will in the end be of questionable value. He must see that the work appertaining to industry should be subjected to the work of the medical profession at large, and that he is only an assistant to medical endeavour as worked out by the general profession. The author is convinced that nothing can take the place of the family doctor either in the profession or in the hearts of his patients and it is his experience that with all the facilities at the factory, a patient rarely offers objection to calling on the family doctor. Industrial medicine finds its greatest opportunity in helping to raise the standard of health generally. If it sees this real opportunity it can perform a signal service to civilization. He states that personally he has referred much more work to the doctors in his own town than he has kept from them by taking care of certain acute ills and minor accidents at the factory. One of the most important functions of the industrial physician is to help to create a wholesome and agreeable place in which to work by exercising such supervision of working conditions that the hazards of industrial disease are eliminated and by installing proper safety devices to minimize the hazards of accident. But discussing the question from the other aspect the author states that the industrial physician has a right to expect certain things of the general practitioner. First the latter should be induced to practise the fundamental teachings and to use rational theurapeutics instead of irrational prescriptions often sold by commercial houses; the general practitioner should be willing to cooperate with the industrial physician when he feels that he must advise his patient to give up a particular job. In conclusion, if the general and industrial physicians are to exert their greatest usefulness, both must recognize their limitations and both must be willing to recognize the sphere of the other.

## British Medical Association News.

### SCIENTIFIC.

A MEETING OF THE WESTERN AUSTRALIAN BRANCH OF THE BRITISH MEDICAL ASSOCIATION was held at the Children's Hospital, Perth, on June 18, 1924, Dr. D. P. CLEMENT, the President, in the chair.

#### Chronic Ulceration Treated by Parathyroid Extract.

Dr. R. S. MCGREGOR showed a girl, aged twelve, suffering from chronic ulceration of the leg. The ulcer had resisted all form of treatment for many months until parathyroid tablets had been given twice daily in doses of 0.006 gramme (one tenth of a grain). The effect of this treatment had been very noticeable and although it had been given for only a fortnight, the ulcer showed definite signs of healing. Dr. McGregor said, that having just read a paper by Mr. Hadley on the value of parathyroid in these cases, he had been tempted to use it in this instance with, what were to him, marvellous results.

#### Erythredema Polyneuritica.

Dr. McGregor also spoke of a patient with *erythredema polyneuritica* whom he regretted having been unable to bring to the meeting. Dr. McGregor outlined the symptoms and described the known facts of his condition.

#### Peri-Bronchial Fibrosis.

Dr. J. G. HISLOP read a paper entitled: "Peri-Bronchial Fibrosis" (see page 185). He showed two patients, one of whom in his opinion was suffering from hilum tuberculosis, whilst the other was possibly suffering from peri-bronchial fibrosis due to septic absorption from some septic focus, most probably naso-pharyngeal. In both patients increased hilum shadows were present on the X-ray films, but in one child there were definite signs of nasal sepsis, whilst the other was apparently normal in this regard.

#### Diabetes.

Dr. L. J. ROBERTSON showed a patient suffering from diabetes. Glycosuria had first been noted after an attack of scarlet fever and diphtheria had been contracted whilst the condition was being treated. When the blood sugar was first estimated the amount had been 0.23 milligrammes. The last result had been 0.08, but the urine still contained sugar in small quantities at intervals. The diet which the patient was having, was described and the calories enumerated. The child had gained nearly 6.3 kilograms (fourteen pounds) whilst under treatment, the present average weekly gain being 0.45 kilograms (one pound).

#### Empyema.

Dr. R. H. CRISP presented two patients who had been operated during the previous few weeks for empyema. The first had been admitted with a left sided empyema and had presented a loud friction rub over the anterior surface of the liver making it difficult to decide whether there was peritonitis complicating the condition. A large purulent effusion had been drained by the usual operative methods and the child had made an uninterrupted recovery, the condition around the liver settling down without surgical intervention. The second had given the usual signs of empyema, pus had been drawn off by means of a syringe but at operation a very small amount of fluid had been found in the pleural space. The inter-lobar space had appeared clear and pus had been obtained from the lung tissue by a needle. The abscess cavity had not been opened, a tube had been inserted for drainage purposes into the pleural cavity and after some days the abscess had broken down and discharged through the tube. Recovery had been uneventful.

#### Peri-Arthritis.

Dr. L. J. ROBERTSON also presented a boy, aged eleven years, who had been admitted to hospital with peri-articular swelling of the joints of the arms, hands, legs and feet.

The glands in the axillary and inguinal regions had been palpable, but not very large. The spleen had not been palpable, but the percussion note had been diminished over the splenic area. There had been a history of "growing pains" two years previously. After this the joints had begun to swell and though the child had had four months' hospital treatment before being admitted to the Children's Hospital, pain had been present on occasions with periodic elevations of temperature. On admission the child had been confined to bed as it was unable to walk. On March 23, 1924 the tonsils and adenoids had been removed and a *Staphylococcus aureus* growth had been obtained on culture. Intravenous *Bacillus coli communis* injections had been commenced on April 7, 1924, the initial dose being one million. These had been repeated every five to seven days in increasing doses, the last dose prior to presentation of the case being 70 millions. The reactions had varied from a temperature of 37.6° C. (99.6° F.) to 40° C. (104° F.). The improvement on treatment had been remarkable. The child was running about, was free from pain and had a normal temperature. Dr. Robertson remarked that the removal of the septic focus by the enucleation may have had some influence on the improvement, but he felt that it was mainly due to the intravenous injections.

#### Congenital Intra-Cranial Haemorrhage.

Dr. J. G. HISLOP showed a patient of Dr. E. A. Officer who he considered was the subject of intra-cranial hemorrhage at birth. At the time of presentation the child was fourteen months old. The delivery of the child had been a difficult one with instruments, there being some history of head rotation. The child had appeared to be normal until six weeks' old when it had had a fit, of which the description was vague. The child had then been admitted to the Children's Hospital. No fits had occurred during its stay, but it was said to have had four just after discharge. From that time the longest interval between the fits had been fourteen days, the interval having been as short as one hour. On admission on April 15, 1924, the following particulars had been ascertained: The diet had always been cow's milk and the child was still on the bottle; she would take food, though with difficulty on account of the almost continuous twitching. She had never attempted to sit up and could not hold her head up. On examination the left *membrana tympani* had been pink and bulging and had been incised under general anaesthesia, a sanious discharge following. There had been some general rigidity with opisthotonus. During the child's stay in hospital the fits had been very frequent. He pointed out that the child lay on its back, with its head turned to the left and resisted the head being turned to the right, it cried and became convulsed on being touched. The cry was typically that of mental irritation. The eyelids were always widely open, with the eyes turned to the right and the child seldom slept without hypnotics. The fits appeared to commence in the right hand and spread all over the body, the left side twitching actively if the child was thoroughly disturbed. If touched only, the child cried, endeavoured to incline its head more to the right and the muscles of the face began to twitch. Clear fluid containing a few lymphocytes under increased pressure had been obtained on lumbar puncture. The cerebro-spinal fluid had not reacted to the Wassermann test. The left ear had continued to discharge extraordinarily freely for some time, the discharge being thin and watery. A large furuncle had appeared in the right external auditory meatus. The X-ray report had been "Cranium is thinned out and expanded by intra-cranial pressure. No other abnormality noted. Pituitary fossa normal." The ophthalmological report had indicated that the *fundi oculi* were normal.

#### Purpura.

Dr. Hislop showed a patient who was suffering from purpura associated with marasmus in which the purpura had been present for nearly three weeks, fading and re-appearing from time to time. The onset of each re-appearance had been preceded by oedema of the hands or feet. At times the purpura had extended over almost the whole body.



**Hydrocephalus.**

Dr. Hislop also showed a patient suffering from hydrocephalus following an operation for *spina-bifida*. The circumference of the cranium was 71.25 centimetres (twenty-eight and one half inches). The child had recently survived an attack of diphtheria and though its condition appeared to be very low, the appetite was abnormal. Over two years had elapsed since the operation.

**MEDICO-POLITICAL.**

A MEETING OF THE WESTERN AUSTRALIAN BRANCH OF THE BRITISH MEDICAL ASSOCIATION was held at the Children's Hospital, Perth, on June 18, 1924, Dr. D. P. CLEMENT, the President, in the chair.

**Reference of Patients to Lay Radiologists.**

A letter was read asking for withdrawal of the ban imposed on a lay radiologist by the resolution passed which makes it unethical for a member to send a patient to an unqualified radiographer for X-ray examination. As a result of the discussion, Dr. L. J. Robertson moved and Dr. J. K. Couch seconded a notice of motion for the next meeting to rescind the resolution of the Branch dated May 21, 1924, to the effect that no medical practitioner should refer patients requiring X-ray examination or treatment to lay radiologists and that the ethical rules be altered accordingly.

**Public Health and the General Practitioner.**

Consideration of the report of the Federal Committee on the cooperation of the medical profession with the Commonwealth Department of Health was deferred to the next meeting.

**State War Memorial.**

A letter from the secretary of the State War Memorial was received.

**Condolence with Dr. Anderson.**

A reply was received from Dr. T. L. Anderson, O.B.E., to a letter of condolence on the death of his wife.

**Dr. Trethowan's Illness.**

On the motion of Dr. R. C. Merryweather seconded by Dr. D. M. McWhae it was resolved to forward a letter of sympathy to Dr. W. Trethowan in his recent illness.

**Fees for King Edward Memorial Hospital.**

Notice of motion was lodged by Dr. C. Joyce for the next meeting that the Government be recommended to increase the fees to five guineas for attendance at the King Edward Memorial Hospital.

**COMMONWEALTH LABORATORIES.**

DR. GREGORY SPOTT intimates that it was Dr. D. H. E. Lines and not himself who took charge of the motion at the meeting of the Federal Committee of the British Medical Association in Australia dealing with the institution of Commonwealth laboratories (see THE MEDICAL JOURNAL OF AUSTRALIA, August 2, 1924, page 126). Dr. Spott informed the members of the Tasmanian Branch that he was not in favour of the motion and could not support it at the meeting of the Federal Committee.

**Medical Societies.****THE MELBOURNE PÆDIATRIC SOCIETY.**

A MEETING OF THE MELBOURNE PÆDIATRIC SOCIETY. was held at the Children's Hospital, Melbourne, on June 11, 1924, Dr. W. DISMORE UPJOHN, O.B.E., the President, in the chair. The meeting took the form of a series of clinical demonstrations.

**Cleft Palate.**

DR. H. DOUGLAS STEPHENS showed an infant aged seven weeks on whom two days previously he had performed

the Brophy operation for cleft palate. He explained that the method of Brophy aimed at the approximation of the maxillæ and demonstrated the position of the wires and plates by means of which this was accomplished. Dr. Stephen said that Brophy advocated that the approximation of the maxillæ should be brought about before the child reached the age of six months, that the operation for associated hare-lip should be undertaken at the age of seven or eight weeks and that fourteen months of age was the most suitable time for the repair of the soft palate. With the aid of blackboard diagrams Dr. Stephen entered into a short description of the technique and a discussion of the relative merits of the Brophy, Lane and Langenbeck operations for cleft palate. Although the lead plates employed in the Brophy method were left in position for five or six weeks, septic infection and ulceration were not such frequent occurrences as perhaps might be anticipated. The great difficulty he had experienced was to secure satisfactory approximation of the posterior portions of the hard palate. Hæmorrhage during the operation was very much less than that incidental to the operations of Lane and Langenbeck. He would never choose the operation devised and practised by Arbuthnot Lane for the primary repair of cleft palate. His chief objection to it was the scarring and induration which it caused. At the same time he had found the Lane operation the best procedure in some instances in which secondary repairs of the palate was necessary.

The operation which he performed most frequently was that of Langenbeck. This was best carried out when the child had attained the age of about two and a half years. It was particularly suitable for those children in whom the arch of the palate was high. On the other hand, when the palate was comparatively flat, it was difficult to unite the two halves without an undesirable degree of tension. In the endeavour to eliminate tension it was necessary to guard against the risk of impairing the nutrition of the palatal tissues by carrying the incision too far backwards.

A disadvantage of the Langenbeck operation was that it led to some degree of shortening of the palate. This, although very slight, was sufficient to affect the child's speech. Shortening was also a concomitant of Lane's operation, but it was claimed by Brophy that in his method no shortening was involved.

**Hemiparesis.**

DR. W. W. McLAREN presented a child aged four and a half years for discussion regarding prognosis and treatment of left sided hemiparesis.

The child had first been brought to the Children's hospital when thirteen months of age by reason of the fact that he did not use his left arm. It had been impossible to induce him to make any attempt to stand, but otherwise he had been an apparently normal baby. The mother had stated that birth had not been difficult and to the best of her knowledge there had been no necessity for instrumental delivery.

On May 6, 1924, the child had again been brought to the hospital because he had had four convulsions during the preceding two days. It had been ascertained that convulsive seizures had occurred on ten occasions since the beginning of 1924. The mother could not say that the movements of the limbs which occurred in the fits were more exaggerated on one side than on the other. Between May 6 and May 19, 1924, there had been five further convulsions. The family history with respect to other children was good and the Wassermann test applied to the blood serum of the patient had afforded no indication of congenital syphilis. Hemiparesis and a slight degree of spasticity were evident in the left arm and leg. The left leg was 1.25 centimetres, and the arm 0.75 centimetres shorter than the corresponding limbs on the other side. The plantar reflex on the left side was extensor in character.

DR. H. BOYD GRAHAM said that it was difficult to be certain that there had been no difficulty attending the birth of the child. Dr. McLaren had elicited the fact that the head was born before the arrival of the medical attendant and that the doctor experienced some trouble in the delivery of the shoulders. There might therefore have

been some asphyxia in the baby at the time of birth. The clinical features in the child suggested the existence of a cortical vascular lesion. He considered that prognosis was unfavourable both in regard to the cessation of convulsions and the attainment of normal mentality.

DR. H. DOUGLAS STEPHENS remarked that parents often did not detect any paresis during the baby's first twelve months; it was frequently later that backwardness in attempting to walk or a limp in the gait raised their suspicions that the child was under some disability.

It had been shown, notably by Cameron, that a very high proportion of children dying at birth as the result of dystocia suffered from hæmorrhage and other intra-cranial trauma, particularly in the region of the *tentorium cerebelli*. It was probable that a good number of the infants who survived, had sustained slighter degrees of trauma and included among these some suffered from Little's disease. He suggested that the intra-cranial hæmorrhage was not necessarily cortical but might be located in the *pons Varolii* or in the basal ganglia. Many children affected by Little's disease were very intelligent and their intelligence advanced as they grew older. He thought that the outlook as regards mentality depended largely on whether the child became subject to fits or not, dementia was usually the outcome in those children who were subject to repeated convulsive seizures.

A discussion ensued regarding the prospects offered by surgical measures in the child shown by Dr. McLaren. The general opinion was that there was no possibility of correcting the fundamental lesion and that the degree of spasticity in the limbs scarcely warranted an operation for its relief.

#### Control of Hæmorrhage by Intravenous Injections of Calcium Chloride.

DR. J. W. GRIEVE presented a girl, aged eight years, who had recovered from a critical illness in which the leading feature was persistent hæmorrhage from the gums and mucous membrane of the mouth. On the patient's admission to hospital it had been stated that she had complained of a sore throat for six days. She had been feverish, pallid and obviously very ill. Blood had continuously oozed from the gums and tonsils and the breath had been very offensive. The cervical glands on both sides of the neck had been swollen but there had been no enlargement of other groups of glands nor could any increase in the size of the spleen be detected. By examination of the blood it had been determined that the total leucocyte count was 35,000 per cubic millimetre; of these 90% had been polymorpho-nuclear cells. There had been no feature in the film to suggest leucæmia. After various local and general measures had failed to arrest the bleeding in the mouth, transfusion of blood had been adopted. The child had received one hundred and eighty cubic centimetres of citrated blood from her father by intravenous injection, but the hæmorrhage had continued and she had bled for many hours from the incision made for the purpose of transfusion.

The next step had been to administer five cubic centimetres of a 10% solution of calcium chloride by intravenous injection and this had apparently been effective in arresting the hæmorrhage. One injection only had been given.

DR. WILLIAM DISMORE UPJOHN said that he had found the intravenous injection of calcium chloride of use as a preliminary when operation was necessary in deeply jaundiced patients. It was of very great importance that care should be exercised in making the injection, for if calcium chloride solution escaped into the tissues round the vein, serious sloughing followed.

DR. REX HYLTON mentioned that patients frequently complained of great discomfort and a sensation of heat all over the body, experienced immediately after the injection of calcium chloride. The unpleasant feeling was very transitory and passed off within a few minutes.

#### Congenital Heart Disease.

DR. GRIEVE's second patient was a boy aged eight years, very much undernourished and poorly nourished, affected with congenital heart disease. As a baby he had progressed in

an apparently normal manner until he commenced to walk when his mother had noticed that after exertion he became very "blue" and distressed for breath. The mother had been informed at that time that the child's heart was abnormal. Dr. Grieve said that the boy was subject to frequent fainting attacks. His weight, at the age of eight years, had been 18.2 kilograms only. Cyanosis and clubbing of the fingers and toes had been conspicuous features. By physical examination it did not appear that the heart was enlarged. A systolic bruit of maximum intensity in the second and third intercostal spaces immediately to the left of the sternum was audible over the whole of the præcordial area. The second sound in the cardiac cycle could not be detected over the pulmonary valves, but was distinct in the mitral area. No "thrill" could be detected by palpation.

There followed a general discussion on the subject of congenital heart disease in which many members participated.

#### Dementia Præcox.

DR. D. M. EMBELTON invited discussion on the case of a boy, aged eleven years, whom he had at first regarded as the subject of *petit mal* or minor epilepsy. As the disorder progressed, however, he had been impelled to take a different view and considered that the boy displayed the features of *dementia præcox* or adolescent insanity.

The patient was one of twins and his mother had had no other children. Until the middle of April, 1924, he had been a bright, intelligent and tractable boy. In April, 1924, it had been noticed that he behaved in a peculiar manner during sleep and would most unaccountably strike the mattress repeatedly with his feet. In a very short time he had begun to show erratic behaviour by day also. Questioned after some extraordinary act the boy would say that he did not know why he had done it.

He had been put to bed and given bromides but no improvement had followed; on the contrary, his aberrancies had become more frequent. He would sit up suddenly in bed, turn over quickly and bury his hands under the pillow. In the next phase he had begun to call out during the attack, shrieking at the top of his voice. The attacks had increased in frequency to one every hour and had affected him waking or sleeping. In the intervals he had been quite tractable and apparently rational.

He had continued in this state for one month and during the last week in May, following the administration of potassium bromide and *cannabis indica*, the attack had diminished in frequency to three or four per day. The boy was awake when an attack was imminent as immediately prior to the onset he experienced a sensation as of something rising in his chest. Although the attacks had diminished in number, the boy's whole mental attitude had changed. In contrast to his former amenable and likeable disposition, he was abrupt, violent, ill-tempered and impudent.

Physical examination disclosed no stigma of disease. The cerebro-spinal fluid had been found to exhibit no abnormal features. The serum had not reacted to the Wassermann test. It had been ascertained that mental disease existed on the maternal side of the family.

#### THE ALFRED HOSPITAL CLINICAL SOCIETY.

A MEETING OF THE ALFRED HOSPITAL CLINICAL SOCIETY was held at the Alfred Hospital, Melbourne on June 24, 1924, DR. J. P. MAJOR, the President, in the chair.

#### Pneumo-Peritoneum.

DR. R. FOWLER demonstrated a modification of Rubin's apparatus for the induction of pneumo-peritoneum. He said that by means of a small hand pump air in measured volumes could be introduced either through the belly wall or along the uterine canal and tubes into the peritoneal cavity. In gynaecology the apparatus was used: (i.) Therapeutically to break down soft fimbrial adhesions or to keep patent a salpingostomy opening immediately following operation; (ii.) Diagnostically to demonstrate patency or otherwise of the tubes,

Dr. Fowler showed the apparatus in action in a patient with patent tubes. He also demonstrated methods of treating chronic gonorrhoea in the female with special reference to the use of diathermy. Special electrodes were used for the cervix and urethra and a definite rise in temperature of the parts treated was registered. It was pointed out that a temperature of 43° C. (110° F.) would kill the gonococcus *in vitro* in ten minutes. Electro-coagulation was used for eradicating small infected foci, such as in Skene's glands and elsewhere. Results following the use of diathermy were encouraging.

#### Tumour of the Neck.

Dr. G. E. FOREMAN showed a male, aged seventy-six, with a tumour of the neck. The tumour had been present for fourteen years. The swelling was about 12.5 centimetres (five inches) in diameter and displaced the trachea to the left and the right and in a posterior direction. There was slight dysphagia, but no other subjective trouble.

Mr. R. C. BROWN thought that the growth originated in the thyroid gland and advocated removal because of the possibility of the occurrence of malignant change.

Mr. BALCOMBE QUICK discussed the suggestion that the tumour might be a congenital cyst, only to dismiss it on account of the large size of the swelling. He agreed with Mr. Brown.

#### Lead Poisoning.

Dr. WALTER SUMMONS showed a male patient aged twenty-nine, who was a worker at a shot factory and in the habit of handling metallic lead. The symptoms were of three months' duration. The onset had been characterized by abdominal pain and headaches. He had come under observation in May 21, 1924. A definite anaemia had been present, but there was no granulation of red cells. A blue line had been continuous on the gums of both upper and lower jaws. The systolic blood pressure had been 154 and the diastolic 108 millimetres of mercury. The urine had contained no albumin, no casts, but three milligrammes of lead per litre had been present.

Dr. Summons laid stress on the importance of the condition from an industrial aspect. Lead poisoning had been a notifiable disease since January, 1924. This patient was the second notified. Hence he concluded that lead poisoning was apparently not a common industrial disease in Melbourne. On the other hand Dr. Gustav Ampt had examined the urine of twelve patients during the last three years and ten of the samples had contained definite quantities of lead. The treatment of the patient demonstrated had consisted in the administration of potassium iodide, salines and iron mixtures. Dr. Summons thought that in the absence of gross renal and arterio-sclerotic changes the prognosis should be good.

#### Mediastinal Tumour.

Dr. HENRY LAURIE showed a woman, aged fifty, who had been admitted to hospital complaining of pain in the left side. The pain had been worse on deep breathing and of a stabbing nature. She had had cough for years and some dyspnoea at times. Examination had revealed the apex beat in the sixth interspace, ten centimetres from the mid-line. The second sound at the aortic area had been accentuated. The lungs had been less resonant than normal and diminished vesicular murmur and scattered rhonchi had been present. There had been bulging of the upper part of the sternum and anteriorly the dullness had been continuous with that of the heart up to the first intercostal space. It had also extended to the left two fingers' breadth from the sternum and to the right three fingers' breadth from the sternum at the level of the second intercostal space. Posteriorly there had been dullness between the scapulae from the fifth to the seventh dorsal vertebra. Screen examination had revealed a more or less rounded opaque shadow occupying the posterior mediastinum. It had not appeared to be part of the heart or great vessels and had not pulsated. No reaction had occurred to the hydatid complement fixation test when performed by the Harrison and ice box methods. The Wassermann test had yielded a reaction designated as "P. + + + +." A month later she had again been submitted to X-ray examination and the plates revealed definite lipping of the anterior edges of the dorsal vertebrae

from the sixth to the eleventh with bridges of bone between the anterior edges of the bodies of the sixth and seventh, seventh and eighth, eighth and ninth dorsal vertebrae.

There was no erosion of the bodies but definite proliferating arthritis. There was cloudy dullness of the posterior mediastinum in the lower half with a possible calcareous narrow horizontal formation at the level of the sixth intervertebral disc. The shadow was 2.5 centimetres long and 1.75 centimetres broad in front of the spine. The appearance suggested an inflammatory condition rather than an aneurysm or new growth and was possibly associated with the arthritis.

Dr. A. V. M. ANDERSON regarded the condition as due either to tuberculosis or syphilis, probably the latter.

Dr. SUMMONS who had showed his patient at a clinical meeting in December, 1923, regarded the condition as specific.

Dr. C. E. DENNIS considered that an inflammatory condition rather than aneurysm or hydatid would explain the clinical findings and X-ray appearance.

#### Mitral Stenosis and Auricular Fibrillation with Embolic Gangrene of the Leg.

Dr. M. D. SILBERBERG showed a female patient, aged thirty-eight, who had been admitted to hospital on May 26, 1924, as possibly suffering from renal colic. Investigation had given no evidence of renal calculus. On examination the patient had been found to have auricular fibrillation with signs indicating mitral stenosis, an enlarged and tender left kidney and a temperature of 38.4° C. (101° F.). The auricular fibrillation had been easily controlled by the administration of tincture of digitalis in doses of one cubic centimetre (fifteen minims) every four hours. The temperature had become normal in four days. In five days the left kidney had lost its tenderness and was not palpable. On June 4, 1924, the patient had complained of a sudden numbness in both lower limbs, but more especially in the right. On examination the right lower limb had been mottled like marble in appearance; it had been cold and pulseless and extremely tender on pressure over Scarpa's triangle. Later, tenderness had been more noticeable in the popliteal fossa.

The right leg at the time of demonstration presented a large area of dry gangrene with a well defined line of demarcation extending up two thirds of the outer side and one-half of the inner side. No quinine had been given at any time. Discussion was invited on the patient's ability to withstand a general anaesthetic should amputation be indicated and whether Key's operation of embolectomy should have been attempted.

Dr. A. V. M. ANDERSON suggested the possibility of the presence of subacute bacterial endocarditis in view of the occurrence of auricular fibrillation. The occurrence of embolism was interesting in that had the patient taken quinine this would probably have been regarded as responsible.

Dr. R. FOWLER recalled a similar instance in which amputation had been performed under spinal anaesthesia.

Dr. J. P. MAJOR and Dr. R. C. BROWN spoke of good results which had been recorded following the operation of embolectomy.

#### MELBOURNE PÆDIATRIC SOCIETY.

A MEETING OF THE MELBOURNE PÆDIATRIC SOCIETY was held at the Children's Hospital, Melbourne, on July 11, 1924, Dr. WILLIAM DISMORE UPJOHN, O.B.E., the President, in the chair.

#### Infective Arthritis.

Dr. R. DOWNES, C.M.G., showed a boy, aged nine years, who had first presented himself at the Children's Hospital two months previously. It was then stated that appendicectomy had been performed eight weeks before and that the operation had been decided upon after the boy had suffered for several days from acute abdominal pain and fever.

Flexion at the right hip joint had been of such degree that it was difficult to see the scar occasioned by the recent abdominal operation; the right knee joint had also been acutely flexed.



On further inquiry it had been ascertained that one week after the removal of the appendix, swelling, accompanied by much pain and tenderness had appeared in the left fore-arm. A "swinging" temperature had persisted for the whole of the two months preceding the child's first attendance at the hospital.

A degree of flexion, considerably less than that obtaining on the right side had also been present in the left hip and knee-joints. Radiographic examination had revealed loss of cartilage in the right hip joint and osteitis of the ilium; rarefaction and the presence of sequestra had been determined in the distal end of the diaphysis of the left ulna.

Under general anaesthesia the flexion of the thigh and legs had been reduced and splints had been applied to maintain the correction. The boy had subsequently been treated by the Hamilton Russell method of applying extension; at the time of demonstration he was able to get about on crutches. The swelling over the distal extremity of the left ulna had not progressed; it was fluctuant, not tender and occasioned the boy no pain. The right thigh was fixed in a position represented by thirty degrees of flexion and thirty degrees of abduction.

DR. KENT HUGHES advised against too energetic measures to overcome the flexion of the hip-joint; he would secure rest to the joint by the application of a Thomas's splint and would operate for the removal of the sequestra in the ulna.

#### Inhalation of Foreign Body.

DR. ROBERT SOUTHEY presented on behalf of Dr. W. W. McLaren a child, aged two and a half years, who was admitted to the medical wards of the hospital in November, 1923, suffering from lobar pneumonia. After ten days she had been discharged, apparently well. Since that time she had been a regular attendant in the out-patient department on account of a persistent cough and on May 26, 1924, had suffered from an hæmoptysis; the quantity of blood expectorated had not been very large.

It had been ascertained from the mother that just prior to the attack of pneumonia in November, 1923, the little girl had "swallowed" a grass seed. Immediately afterwards she had been greatly troubled by coughing and had coughed throughout the night. The mother had not been able to detect the grass seed in any of the material vomited or expectorated by the child; she had also searched the motions at that time, but was unable to satisfy herself that the foreign body had been passed.

A radiogram of the chest had been interpreted by Dr. Hewlett as showing the shadow of a foreign body and pulmonary abscess in the lower lobe of the right lung.

#### Syphilitic Hepatic Cirrhosis.

DR. A. P. DERHAM discussed the case of a boy, aged nine and a half years, a ward of the Neglected Children's Department. That he was very much undersized might be judged from the fact that his height was one metre and that his weight was eighteen kilograms.

Cretinism was suggested by the dry skin, ichthyosis, excessive skin on the face, double internal strabismus, "pot" belly, umbilical hernia and mental backwardness. His mental age had been determined as six years.

Other clinical features were a very much enlarged spleen and abnormal size of the liver, the lower border of which was palpable four centimetres below the costal margin.

No serological evidence of syphilis could be obtained by the Wassermann test.

Dr. Derham's first diagnosis had been cretinism, with associated hepatomegaly and splenomegaly and he had instituted treatment with "Hormotone" and thyroid extract.

After four months of treatment on these lines the boy had shown no noticeable improvement. He had been referred to Dr. H. Douglas Stephens for an opinion. Dr. Stephens had concurred in the view that the patient was a subject of hypo-thyreoidism and had suggested the existence of the rare condition of congenital alcoholic cirrhosis.

In the next place the boy had been given a course of hypodermic injections of solution of adrenalin chloride (1 in 1,000) in half cubic centimetre quantities, twice daily.

His height at the time of demonstration was 102.5 centimetres and his weight 19.1 kilograms. The size of the liver and spleen had not diminished and there had been no apparent mental advance, although the boy's physical activity had much improved. There had not been an appreciable degree of jaundice while he had been under observation and little if any ascites. Dr. Stanton had made a complete examination of the blood with reference to cytology, but the findings were not in any way suggestive. In the application of the Van den Bergh test to the blood serum a moderate biphasic reaction had been obtained in the direct test and a faint reaction in the indirect test.

Dr. Derham indicated that his present view of this child was that he was affected by congenital syphilitic hepatic cirrhosis, with which was associated a degree of sub-thyreoidism. He invited opinions regarding the risk of arsenical hepatitis supervening should this boy be given intensive anti-syphilitic treatment by intravenous injections of "Nov-arseno-billon."

DR. R. R. STAWELL said that he did not view the boy as a cretin. Sub-thyreoidism could be only a matter of opinion in the absence of a determination of the basal metabolism and this was beset with special difficulties in a child of such age and mentality. He drew attention to the definite though slight degree of frontal bossing in the patient. He was disposed to regard him as a syphilitic, although he had not often seen such a degree of syphilitic splenomegaly. He thought it would be wise to avoid arsenical treatment in view of the hepatic cirrhosis and suggested the trial of the bismuth preparations, "Trépol" and "Neo-trépol."

DR. H. BOYD GRAHAM mentioned the case of a child in whom a number of gummata in the liver had been observed during laparotomy. He had subsequently administered thirty-five intravenous doses of "Nov-arseno-billon" in several courses and had observed no bad effects.

DR. H. CECIL COLVILLE said that his experience of "Trépol" was limited to patients of the so-called Wassermann-fast type and it was that large doses and prolonged courses of the newer bismuth preparations failed to effect any change in the reaction of the serum. He had not had an opportunity of testing the efficacy of "Trépol" in the treatment of recently acquired syphilis.

DR. MERVYN STEWART recalled two adult patients in whom arsenical hepatitis, sequent on the intravenous injection of "Nov-arseno-billon" had determined a fatal issue.

#### Cavernous Angioma of Upper Lip.

DR. MERVYN STEWART showed an infant, aged five months, in whom a large cavernous angioma of the upper lip was present. When the child was born, a small red nœvus of pin-point size had been present and this had been the precursor of the large and growing angioma.

Dr. Stewart asked for discussion on the most appropriate method of treatment. He considered carbon dioxide snow, radium, electrolysis and diathermy in relation to the particular condition and remarked that electrolysis appeared to him to be the most suitable. In the event of using electrolysis he would like suggestions regarding the relative merits of the uni-polar and bi-polar methods. Had any member experienced bad results such as shock and scorching in using uni-polar electrolysis?

Although he had not considered excision in this particular instance Dr. Stewart expressed doubt that full advantage was taken of excision in the treatment of nœvi. Did not excision after all, give the best results when the tumour was of reasonable dimensions? The general objection to the excision of nœvi about the face was the resultant scar and although this was a valid objection, much could be done to obviate unsightly scars.

DR. R. R. WETTENHALL said that nœvi varied very much with respect to the amount of vascular tissue they contained. In the case of the child shown by Dr. Stewart the tumour contained very numerous vessels and did not appear to him to be of the type in which large cavernous spaces were the principal features. He regarded it as eminently suitable for treatment by radium and the more so as it was growing fairly rapidly. After radium he would place bi-polar electrolysis as the method of treatment next in order of election.

### Congenital Absence of the Radius.

DR. F. KINGSLEY NORRIS showed an infant in whom was illustrated the congenital defect of bi-lateral absence of the radius. The child's mother displayed absence of the thumb and first metacarpal bone in both hands. Skiagrams illustrating the defects were shown in the case of both mother and child.

### Hepatomegaly; Splenomegaly; Jaundice.

DR. J. W. GRIEVE presented a girl, aged thirteen years, who had been quite well until ten months previously. The onset of her illness had been characterized by the sudden development of jaundice; there had been no associated intestinal symptoms. Although the stools were clay-coloured at first, they had subsequently returned to an apparently normal degree of pigmentation. After the lapse of ten months the child was still slightly jaundiced and bile-pigment was demonstrable in the urine. She had not been actually invalided at any time during the course of the disease.

Physical examination showed that both liver and spleen were distinctly enlarged. In October, 1923, various measures of laboratory investigation had been carried out as follows: (i.) Indications of deficient liver function had been afforded by the l  vulose storage test. (ii.) A complete cytological examination of the blood had not disclosed any suggestive features. (iii.) By the Van den Bergh test applied to the blood serum positive bi-phasic and indirect reactions had been obtained. (iv.) There had been no demonstrable increase in the corpuscular fragility. (v.) No evidence of hydatid disease had been forthcoming by the complement-fixation test and the Casoni intra-dermic test. (vi.) The blood serum had failed to give the reaction of syphilis in the Wassermann test.

The various tests had all been repeated within the previous week and the only finding which differed from those of the former series, was that relating to the l  vulose test. There did not appear to be any failure of liver function so far as could be determined by this test. In the ten months during which the girl had been under observation, the jaundice had shown fluctuations in intensity. Her general condition remained very good. Epistaxis had occurred recently, but there had been no hemorrhage from mucous membranes other than the nasal. There was no enlargement of the lymphatic glands.

Dr. Grieve suggested that diagnosis in the case of this patient rested between Hanot's hypertrophic cirrhosis and splenic anemia.

### Banti's Disease: Splenectomy: Recovery.

DR. H. BOYD GRAHAM showed a boy whom Dr. C. W. B. Littlejohn had presented at a meeting of the Society three years previously as an instance of recovery after splenectomy undertaken at an advanced stage of Banti's disease.

The case record is to be found in the report of the proceedings of the Melbourne P  diatric Society published in THE MEDICAL JOURNAL OF AUSTRALIA of November 5, 1921.

After his discharge from the Children's Hospital in July, 1921, the boy had not been seen again until May, 1923. He had then attended the hospital for the treatment of a submaxillary abscess and advantage had been taken of the opportunity to examine him and record the findings of an examination of the blood. It had then been found that the red corpuscles numbered 3,350,000 per cubic millimetre and that the h  moglobin value was 50%. The conspicuous abnormalities were to be noted in a film of the blood. In the corpuscular fragility test the red corpuscles were if anything unusually resistant.

At the time of demonstration, the boy was in moderately good health. H  moglobin was estimated as 70%, the red cells numbered 4,480,000 and the leucocytes 15,000 per cubic millimetre. A notable feature disclosed by a differential count of the leucocytes was the presence of 10% of eosinophile cells. The red corpuscles still resisted h  molysis in 0.45% saline solution, which was the point at which h  molysis usually commenced in normal persons. The

boy's corpuscles showed some degree of laking in saline solution of 0.435% concentration.

By the direct Van den Bergh test a bi-phasic reaction had been obtained in the blood serum; no result had attended the indirect test.

Miss Cowen of the Walter and Eliza Hall Institute had kindly carried out the blood sugar estimations involved in the l  vulose storage test and had found evidence of inefficient liver function.

This boy's recovery after splenectomy had been dramatic. His condition had apparently been so hopeless that Dr. Hume Turnbull had given a very reluctant consent to the operation.

### Tests of Liver Function.

DR. S. O. COWEN, in the course of a singularly lucid address on hepatic function, said that recent work on diseases of the liver exemplified the strong tendency of modern medicine to attempt to enlarge, by means of the investigation of disorders of function the knowledge it had gained in the study of alterations of structure. In no other organ or system perhaps was the problem of disordered function more challenging or more difficult than in the case of the liver; challenging because, as had long been recognized, the immense reserve power of the liver cells enabled the work of the organ to be done reasonably well in spite of gross structural changes. Hence clinical evidences of disturbed function were often terminal events. The problem was difficult by reason of the multiplicity of functions which the organ fulfilled, such of the preparation of food stuffs for absorption, the metabolism of pigment and many others. Thus the very factors which rendered urgent the solution of the problem at the same time greatly enhanced its difficulty.

The tests for estimating the efficiency of liver function in greatest favour were the l  vulose storage test, the h  moclastic crisis of Ehrlich and the Van den Bergh test.

Time did not permit of full discussion and he would limit his remarks to the l  vulose and Van den Bergh tests of which he had had some personal experience.

Dr. Cowen explained the *rationale* of the l  vulose test and emphasized that a pure sample of l  vulose free from dextrose was essential in the practice of this method of investigation. The test was accurate and delicate in detecting acute degenerative changes in the liver, but of much less value in chronic pathological processes. Two types of result were of particular interest. In catarrhal jaundice the l  vulose test disclosed severe liver inefficiency before the jaundice appeared; the results, however, rapidly returned to normal findings and were to be attributed to hepatitis. At the same time, there was probably, as shown by the Van den Bergh test, an obstructive factor in the production of the jaundice.

The other type of result attending the l  vulose test to which he wished to refer, was that occurring in "Salvarsan" hepatitis. Here the test was indicative of hepatic damage even when jaundice was not present.

The Van den Bergh test was a modification of the familiar diazo-reaction of Ehrlich applied to the blood serum. By colorimetric method a quantitative expression of the amount of bilirubin present in the serum could be obtained. Dr. Cowen made clear the meaning of the terms direct and indirect reaction and prompt, delayed and biphasic as used in connexion with the direct reaction. The indirect reaction was to be obtained with all sera; normal individuals registered 0.2 to one unit of bilirubin by the indirect method. The differing reactions were assumed to depend on chemical differences in the bilirubin present.

In a discussion of the three types of jaundice, obstructive, toxic and infective hepatic jaundice and h  molytic jaundice, Dr. Cowen said that he had found the results of the Van den Bergh test consistent and of practical value in the first and third classes, but confusing in the second class.

He concluded with some remarks on the Fouchet test for the detection of bile pigment in the serum and urged the necessity for care and restraint in the application and interpretation of the several tests under discussion.

## Post-Graduate Work.

### ANNUAL COURSE IN SYDNEY.

We have been asked to announce that a post-graduate course in medicine has been arranged by the Sydney University Extension Board and will be held from September 8 to 12, 1924.

The following is the syllabus of the lectures and demonstrations:

DR. C. H. KELLAWAY;

At the Medical School, University of Sydney.

Monday, September 8, 11 a.m.—"The Physiology of Renal Secretion."

Tuesday, September 9, 9.30 a.m.—"Morbid Processes in Renal Disease" (with demonstration of microscopical preparations and micro-photographs.).

Wednesday, September 10, 9.30 a.m.—"Morbid Changes in the Cardio-vascular System Associated with Nephritis; The Nature of High Blood Pressure" (with demonstration).

Thursday, September 11, 9.30 a.m.—"The Pathological Significance of some Symptoms in Nephritis: (i.) Albuminuria, (ii.) Uræmia" (with demonstration).

Friday, September 12, 9.30 a.m.—"The Pathological Significance of some Symptoms in Nephritis: (iii.) Polyuria, (iv.) Œdema."

DR. R. GORDON CRAIG;

At the Medical School of the University of Sydney.

Tuesday, September 9, 11 a.m.—Demonstration of renal function tests.

Wednesday, September 10, 11 a.m.—"The Effect on Renal Function of Obstruction in the Urinary Tract."

Thursday, September 11, 11 a.m.—"The Diagnostic Value of Pyelography" (with lantern slide demonstration).

DR. J. C. WINDEYER;

At the Medical School of the University of Sydney.

Friday, September 12, 11 a.m.—"Renal Disorders in Pregnancy."

DR. S. A. SMITH;

At the Royal Prince Alfred Hospital.

Monday, September 8, 2 p.m.—"Artificial Pneumothorax."

DR. A. W. HOLMES A COURT; and DR. GEORGE BELL;

At the Sydney Hospital.

Tuesday, September 9, 2 p.m.—"Blood Transfusion."

DR. E. W. FERGUSON;

Friday, September 12, 2 p.m.—Demonstration of the Schick test.

Members of the Honorary Medical Staff of the Royal Alexandra Hospital for Children.

Thursday, September 11, 2 p.m.—Demonstrations.

Operations and clinical lectures will take place at the Royal Prince Alfred Hospital on Monday, September 8 and Friday, September 12; at the Sydney Hospital on Tuesday, September 9 and at the Royal Alexandra Hospital for Children on Thursday, September 11.

The fee for the course is two guineas. Medical practitioners proposing to join in the course, should send their applications together with the fee to the Secretary of the University Extension Board, University of Sydney, as soon as possible.

## Correspondence.

### CHRONIC URETHRITIS.

SIR: To the student of gonorrhœa Dr. Ellis's paper on chronic urethritis (THE MEDICAL JOURNAL OF AUSTRALIA, August 2, 1924) arouses interesting speculations. If I have understood the basis of this paper correctly, Dr.

Ellis presumes that a chronic, non-contagious urethritis may be said to commence when gonococci can no longer be discovered in the genito-urinary tract, despite the persistence of pus threads and even of purulent discharge. The lesions of this chronic urethritis and of chronic gonorrhœa are apparently identical, marked principally by proliferation of epithelial cells and by small cell infiltration of the sub-epithelial connective tissue, leading eventually to annular sclerosis and stricture and to the formation of cysts and polypi. The microscope, the incubator and the culture tube are created the sole arbiters of the existence or otherwise of a virulent and highly contagious disease.

Unfortunately, such complete dependence on the verdict of the laboratory will in many cases result in clinical disaster. To me it savours too much of the genial family doctor who, wearied by the repeated visits of the uncured gonorrhœic, advises his patient to let his morning drop rip and assures him it is harmless.

From an intimate experience of gonorrhœa extending now over eight years during which I have personally attended to every detail of each patient's treatment, including irrigation, instrumentation and all bacteriological examinations, I have become more and more convinced that from the standpoint of infectivity a negative microscopic examination even when reinforced by a negative culture is of very little practical value.

A few days ago I saw a man who believed he had been cured of gonorrhœa twenty years ago. He presented the classical signs and symptoms of chronic urethritis as described by Dr. Ellis. He had no discharge, but his urine was loaded with threads. His urethra showed a typical sclerosis and cyst formation. He was bacteriologically examined by Dr. Powell in Ingham and Dr. Breinl and myself in Townsville, but no one of us could discover a gonococcus. Nevertheless, this man had sought advice because he had transmitted a virulent gonorrhœa to a woman with whom he had had quite imperfect intercourse. No other source of contagion was possible.

This is merely a typical example of many which constantly occur in the routine of a venereal practice. We all know the young reprobate who would regard the absence of his morning gleet as pathological. He leads the life of intense sexual promiscuity and apparently his casual and fleeting partners escape disease. But let this man marry and indulge in frequent intercourse over a long period with the one partner. In a great many instances she will come under the care of the surgeon in shattered health, the unhappy and unsuspecting victim of chronic uterine-inflammatory disease. The vast majority of these men will reveal pus threads and a glycerine discharge, but gonococci will be undiscoverable.

The fact of the matter is, that we know little or nothing about the organisms in the latent stage and we should be extremely dubious about pronouncing an actively purulent genital tract as no longer gonorrhœal merely because we can discover no gonococci. I believe it to be a wise decision of the Queensland Department of Public Health to regard any convalescent case of gonorrhœa showing large numbers of pus cells as still potentially contagious.

Personally I will still continue to be extremely suspicious of any urethra producing pus threads, even in the absence of gonococci, providing it has not been subjected to the assaults of brutal instrumentation, to violent abuse by the cautery, nor to the attentions of unqualified irrigation attendants whose sole recommendation lies in the fact that were possibly orderlies in war-time venereal camps and have an intimate knowledge of the latest track gallops.

Yours, etc.,

RONALD MACQUEEN.

A.M.P. Buildings, Flinders Street, Townsville.  
August 6, 1924.

### CANCER RESEARCH.

SIR: Your editorial of August 9, 1924 and the report of the Cancer Research Committee on page 157 give one food for thought.

Granting that the team work conducted under the control of a board "of five professors" may result in the accumula-



tion of a number of important isolated facts, one feels that there is considerable doubt as to whether a scheme controlled as indicated will result in anything but another monument of failure as regards the solution of the cancer problem and another proof that unfettered inspiration rather than a piece of board-run machinery is the necessary primal spring of all great invention and discovery. The names of Pasteur, Lister, Koch, Ehrlich and Noguchi, just to cull a few from the crowd, stand out in favour of individual initiative, whereas at the moment the writer cannot recall any board or committee that has any very great discovery to its credit. It seems a pity also that the proposed organization is limited to "cancer research," whatever that may be.

Medical research has no limitations and the research worker chafes and labours inefficiently when attempts are made to pigeonhole his inspirations. Moreover, the solution of the cancer problem is just as likely to come through inquiry into an apparently unrelated matter as through work specially directed to that end.

It would be far better not to attempt to limit or direct through a committee or otherwise the work of investigators, but rather to form a committee, themselves chiefly research workers, to determine the allotment of funds to various promising workers.

The experience of this committee would give it the necessary general knowledge of the subject of research to judge the possibilities of the individual applicant for assistance, but would not be able to impose any restriction except in the broadest way. It simply need not give the assistance unless it approved generally.

Finally, as it appears this committee is making a general appeal for public subscription and has already mapped out what is to be done with the first ten thousand, one wonders if there could not have been found a body more representative and more closely in touch with the needs and the difficulties of the research worker.

Without any disparagement or reflection on the other members (no doubt experts in their own lines) and realizing that the presence of a few laymen is an advantage, especially if they be business men, one cannot help noting the fact that only two or three of this committee can be regarded as experts in research.

The notable absence of such names as Drs. Ferguson, Tebbutt, A. W. Campbell, Corlette, Latham, Inglis, Prior and others all of whom are actually doing research work on allied subjects and several of whom have special and large experience in cancer, is remarkable. Possibly there is some practical reason why at present the committee should be limited, but it is to be hoped that if the scheme is gone into further that some or all of these practical men will be included.

"It is the intention of the committee to instruct the public—" so runs the report. How this is to be achieved by a committee which contains but one actual cancer research worker, appears doubtful. The medical public will await further details of this scheme with interest and especially will the little band of research workers that so far have got their principal information of the scheme through the public press.

Yours, etc.,  
BURTON BRADLEY.

211, Macquarie Street, Sydney.

#### HOSPITAL DANCE.

We have been asked to make the following announcement: The Annual Dance of the honorary and past and present resident medical officers of the Royal Prince Alfred Hospital will be held at the Wentworth Café on Friday, August 29, 1924 at 8 p.m. Tickets (ten shillings each) may be had from Dr. B. Anderson Stuart at the Royal Prince Alfred Hospital before August 27. Tables may be booked direct from Mrs. MacClurcan at the Café.

#### THE BANK OF AUSTRALASIA.

A new branch of the Bank of Australasia was opened in March at 71, Collins Street, East at the corner of Exhibition Street, Melbourne. It is anticipated that medical

practitioners residing or practising in the neighbourhood will find this branch of the Bank of Australasia a great convenience to them. The manager of the branch is Mr. A. R. L. Wiltshire, C.M.G., D.S.O., M.C., who served with the rank of Lieutenant-Colonel as Officer Commanding the twenty-second Battalion of the Australian Imperial Force.

#### Obituary.

HENRY CHARLES VARLEY.

In our issue of July 19, 1924, we announced the death of Henry Charles Varley on July 10 as the result of an accident while climbing Mount Buffalo. He was the eldest son of Mr. T. E. Varley of East Malvern. He was born on January 4, 1896 in Richmond. As a little boy he attended a private school in Malvern, was then transferred to the Malvern Grammar School and later entered Scotch College. In all three he showed unusual ability. At Scotch College he eventually climbed to the top class and became a prefect. At an early age he revealed literary ability. His contributions to the school magazine and more recently to the *Speculum* have attracted notice. In a prize competition for the best poem on the Scott Antarctic expedition he submitted one which, although not the prize winner, was nevertheless of high merit.

Excellent at his school work and with his pen, he was also a keen athlete. He played cricket, football and tennis, especially the last very well indeed.

Having determined to enter the medical profession he joined the Melbourne University. In his first year he divided an exhibition in English and won the Dwight's Prize in Chemistry. This entitled him to residence in Ormond College where he spent a year. He obtained second class honours in his third year and honours in pathology in his fourth year. During his third year he contracted diphtheria and lost much valuable time. In his final year he carried off the Final Scholarship in Medicine, valued at fifty pounds. While still a junior student Henry Charles Varley offered his services to the authorities with the Australian Imperial Force. At that period it was decided not to permit students to enlist but to expedite their course in order to secure a continuous supply of medical officers for the Australian Army Medical Corps. The war was over before Varley graduated and he was thus prevented from serving. After graduation he served as a resident medical officer at the Alfred Hospital during the period of the influenza epidemic. He himself fell a victim to the infection and was ill for some time. After his term had expired, he entered private practice at Maffra. After a year he sold this practice and then spent some months as a medical officer in the Department of Education. While at Maffra in 1920 he married Miss Mary Gillison.

He did not like the medical inspection of school children work and the occurrence of another illness soon cut short this service. He took a position as *locum tenens* at Maryborough until the end of 1922. He then purchased a practice in Box Hill and by dint of hard work, keenness and ability he increased this practice and gained wide popularity. Children in particular loved him and with them he was very successful. On July 4, 1924, he left for a week's holiday at Mount Buffalo with a friend. He had spent his honeymoon there four years previously. On July 10, as every one knows, he lost his life in a most tragic manner.

The funeral was a remarkable one for so young a man. Public feeling was intense and over a thousand people flocked to the grave-side to do honour to this man of brilliant promise. Much sympathy has been extended to his parents and to his brothers and sisters. His younger brother is a student at the University of Melbourne.

Dr. F. Kingsley Norris writes:

With the death of Charles Varley passed the friend of many men.

Charles was a complex nature and it was perhaps this diversity of character and his enthusiasm that endeared

him to so many, in the surgery, in the home, on the golf course and at tennis.

To daily incidents in his life he brought a clear, clean and crisp humour. He was a great reader and read well, memorizing and recounting what especially appealed to him. To those who had the privilege of working with him, he was a constant stimulus with the practical application of his reading.

In his relations with his patients, Charles Varley was regardless of himself. His work came before all else. Renal efficiency tests, investigations of gastric function, extensive blood examinations, these things were food for his soul and were always carried out in his thorough way.

In one instance when he encountered a case of hæmophilia, he visited the family for weeks and daily established the coagulation time of each of the several children in an endeavour to appreciate the periodicity of the bleeding tendency and the influence of his treatment. That the whole family readily submitted speaks volumes for Varley. In many cases he bore the entire expense of the investigations. These things show the stamp of man we have lost. When last year Charles Varley came to Melbourne we who knew his worth, were glad. He bought an old established practice at Box Hill and in eighteen months by untiring effort he increased this to four times its previous value.

He had intended to sit for the examination for the degree of M.D. this year, but to the great sorrow of those who knew him, the fates willed otherwise.

## Proceedings of the Australian Medical Boards.

### NEW SOUTH WALES.

The undermentioned have been registered, under the provisions of the *Medical Act, 1912 and 1915*, as duly qualified medical practitioners:

ANDREW, PHILIP OSWALD, M.R.C.S., 1896 (England), L.R.C.P., 1896 (London), Brooks Street, Coogee.  
KERR, KEITH GARDNER, M.B., B.S., 1923 (Univ. Melbourne), Finley, New South Wales.  
RICHARDS, ERIC ALEXANDER, M.B., B.S., 1923 (Univ. Melbourne), Lismore.  
TIRWAIRES, HAROLD VERDON, M.B., Ch.B., 1922 (Univ. Edinburgh), Tibobourra.  
WOODS, JOHN GRIEVE, M.B., B.S., 1923 (Univ. Melbourne), Corowa.

### Additional Qualifications.

AIKEN, DAVID, F.R.C.S., 1919 (Edin.), M.D., 1922 (Univ. Edin.).  
BLAKEMORE, CONRAD GEORGE HOWELL, Ch.M., 1924 (Univ. Sydney).  
BLAKEMORE, JOHN HOWELL, Ch.M., 1924 (Univ. Sydney).  
GEARIN, JOHN JOSEPH, Ch.M., 1924 (Univ. Sydney).  
KENNEDY, HANS McMURDIE, Ch.M., 1924 (Univ. Sydney).  
ROYLE, NORMAN DAWSON, Ch.M., 1924 (Univ. Sydney).

## Books Received.

THE LEUCOCYTE IN HEALTH AND IN DISEASE, BEING AN INQUIRY INTO CERTAIN PHASES OF LEUCOCYTIC ACTIVITY, by C. J. Bond, C.M.G., F.R.C.S.; 1924, London: H. K. Lewis and Company, Limited; Royal 8vo., pp. 92, with 48 illustrations on 24 plates. Price: 12s. 6d. net.

## Medical Appointments Vacant, etc..

For announcements of medical appointments vacant, assistants, locum tenentes sought, etc., see "Advertiser," page xvi.

NEW SOUTH WALES BOARD OF TRADE: Clinician to the Silicosis Commission.

ROYAL HOSPITAL FOR WOMEN, SYDNEY: Junior Resident Medical Officer (Female).

## Medical Appointments: Important Notice.

MEDICAL practitioners are requested not to apply for any appointment referred to in the following table, without having first communicated with the Honorary Secretary of the Branch named in the first column, or with the Medical Secretary of the British Medical Association, 429, Strand, London, W.C..

| BRANCH.   | APPOINTMENTS.  |
|---|--|
| NEW SOUTH WALES: Honorary Secretary, 30 - 34, Elizabeth Street, Sydney.       | Australian Natives' Association.<br>Ashfield and District Friendly Societies' Dispensary.<br>Balmmain United Friendly Societies' Dispensary.<br>Friendly Society Lodges at Casino.<br>Leichhardt and Petersham Dispensary.<br>Manchester Unity Oddfellows' Medical Institute, Elizabeth Street, Sydney.<br>Marrickville United Friendly Societies' Dispensary.<br>North Sydney United Friendly Societies.<br>People's Prudential Benefit Society.<br>Phoenix Mutual Provident Society. |
| VICTORIA: Honorary Secretary, Medical Society Hall, East Melbourne.           | All Institutes or Medical Dispensaries.<br>Australian Prudential Association<br>Proprietary, Limited<br>Mutual National Provident Club.<br>National Provident Association.   |
| QUEENSLAND: Honorary Secretary, B. M. A. Building, Adelaide Street, Brisbane. | Brisbane United Friendly Society Institute.<br>Stannary Hills Hospital.  |
| SOUTH AUSTRALIA: Honorary Secretary, 12, North Terrace, Adelaide.             | Contract Practice Appointments at Renmark.<br>Contract Practice Appointments in South Australia.   |
| WESTERN AUSTRALIA: Honorary Secretary, Saint George's Terrace, Perth.         | All Contract Practice Appointments in Western Australia.   |
| NEW ZEALAND (WELLINGTON DIVISION): Honorary Secretary, Wellington.            | Friendly Society Lodges, Wellington, New Zealand.  |

## Diary for the Month.

AUG. 26.—New South Wales Branch, B.M.A.: Medical Politics Committee; Organization and Science Committee.  
AUG. 27.—Victorian Branch, B.M.A.: Council.  
AUG. 28.—New South Wales Branch, B.M.A.: Branch.  
AUG. 28.—South Australian Branch, B.M.A.: Branch.  
AUG. 31.—Victorian Branch, B.M.A.: Notice re Election.  
SEP. 3.—Victorian Branch, B.M.A.: Branch.  
SEP. 5.—Queensland Branch, B.M.A.: Branch.  
SEP. 9.—New South Wales Branch, B.M.A.: Ethics Committee.  
SEP. 10.—Tasmanian Branch, B.M.A.: Branch.  
SEP. 10.—Central Northern Medical Association, New South Wales.  
SEP. 10.—Melbourne Pædiatric Society.  
SEP. 11.—New South Wales Branch, B.M.A.: Clinical Meeting.  
SEP. 11.—Victorian Branch, B.M.A.: Council.  
SEP. 11.—South Australian Branch, B.M.A.: Council.  
SEP. 11.—Brisbane Hospital for Sick Children: Clinical Meeting.  
SEP. 12.—Queensland Branch, B.M.A.: Council.  
SEP. 12.—Central Southern Medical Association (Goulburn), New South Wales.  
SEP. 16.—New South Wales Branch, B.M.A.: Executive and Finance Committee.  
SEP. 17.—Western Australian Branch, B.M.A.: Branch.

## Editorial Notices.

MANUSCRIPTS forwarded to the office of this journal cannot under any circumstances be returned. Original articles forwarded for publication are understood to be offered to THE MEDICAL JOURNAL OF AUSTRALIA alone, unless the contrary be stated.

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